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# PCWORLD



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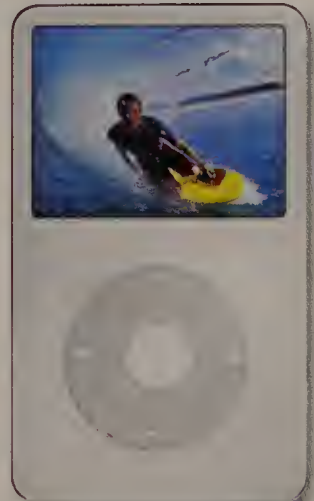
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# 100



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Standard Edition 1-5 units, up to 2500 users **Call CDW 954443**



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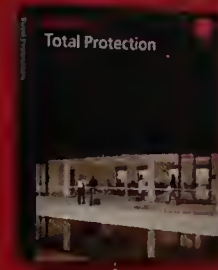
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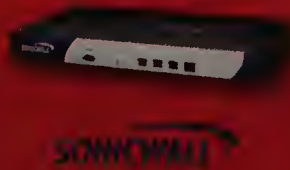
- Delivers comprehensive threat prevention and centralized management, which enables proactive blockage of known and unknown attacks to ensure business continuity
- Unified management platform drives operational efficiencies through centralized deployment, configuration and policy setting
- Strict monitoring of security posture from within the advanced graphical reporting



### SonicWALL Content Security Manager 2100 CF

- Offers a comprehensive suite of antivirus, antispymware and Internet filtering services on a standalone appliance
- Works behind virtually any manufacturer's firewall to block threats at the gateway

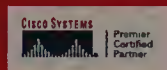
**\$1971** CDW 698434



### WebSense Web Security Suite Lockdown Edition

- Features an integrated Web security solution that blocks spyware, malicious code and other Web-based threats, including backchannel communications from infected machines
- Protects from phishing attacks and controls the sending and receiving of instant messaging (IM) clients
- Provides real-time security updates for immediate protection and includes robust reporting and analysis tools

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### Cisco® ASA 5510 Security Plus Appliance

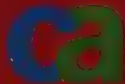
- Delivers a wealth of advanced security and networking services for small to medium-size businesses and remote/branch offices in an easy-to-deploy, cost-effective appliance
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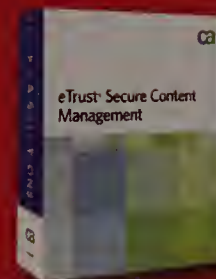
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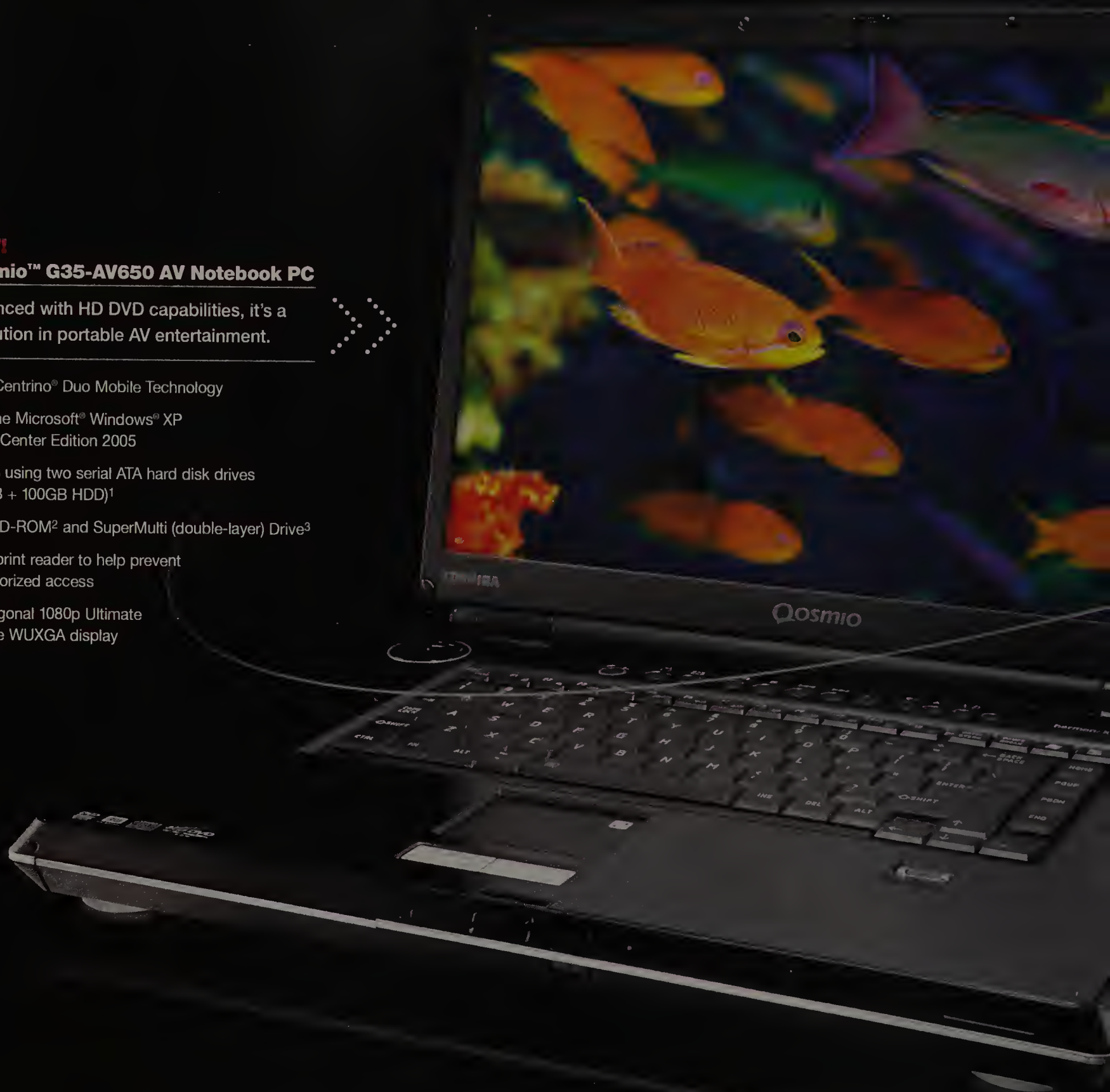
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## COVER STORY

### 82 The 100 Best Products of the Year

Our World Class awards for 2006 pay tribute to outstanding products and services as diverse as dual-core CPUs, image editors, wide-screen LCDs, e-mail apps, digital cameras, browsers, and (of course) PCs. Plus: We take a not-very-nostalgic look at some true technology lowlights—the 25 worst tech products of all time.

Cover photography by Marc Simon.



100

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VOLUME 24 ♦ NUMBER 7

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## FEATURES

### SECURITY SUITES

#### 100 All-In-One Security

Today, threats to your PC take many forms, from simple viruses to sophisticated spyware. Though you can defend your system with separate tools by different makers, security suites promise integrated, comprehensive protection from dangers old and new. We tested ten such packages, pitting them against a rogues' gallery of malware.

### ONLINE STORAGE

#### 121 Store It on the Web

Online data storage services provide a hedge against hard disk failure with off-site backup, a convenient place to store files when you're running out of room, and an easy way to share anything from spreadsheets to videos with family, friends, and coworkers. We look at 17 free and low-cost services—and pick our favorite for each of these three major uses.



## ON THE COVER



DO THE IMPOSSIBLE:

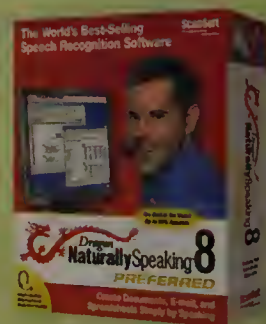
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## FIND-IT URLS

TO ACCESS INFORMATION about any item in *PC World* with an accompanying Find-It URL, enter [find.pcworld.com/xxxxx](http://find.pcworld.com/xxxxx) (where xxxxx is the appropriate five-digit number) into your browser's location field. You'll jump to a Web page containing the information you want.

## COMING UP IN AUGUST

**The Top 10 Security Threats You Don't Know About:** The latest on the battle for control of your PC.  
**Affordable Dual-Core PCs:** A new crop of value desktops promise high speed for around \$1500.

**Internet News Wrangling:** New sites and software make getting the news you need a breeze.  
**Cheap Laptop Tweaks:** Tips and add-on hardware and software for getting more from your notebook.



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A look behind this year's World Class Awards.

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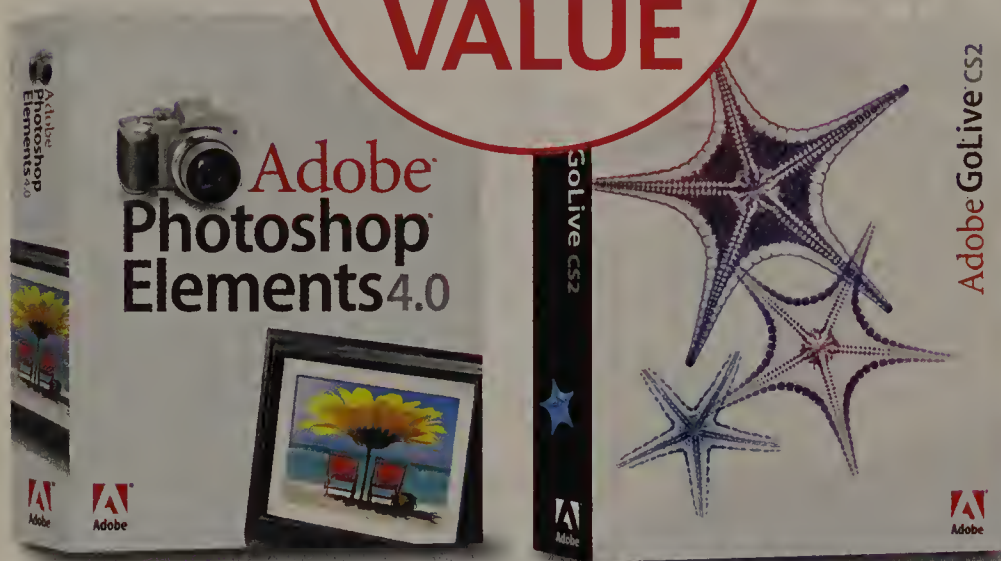
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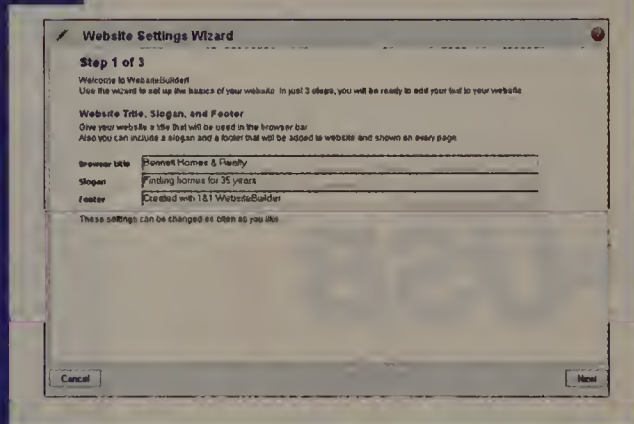
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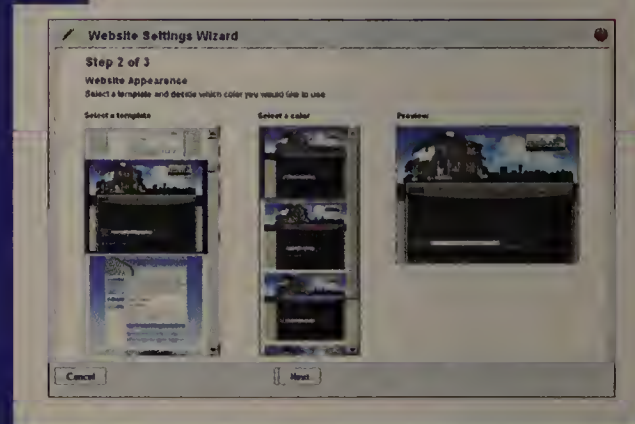
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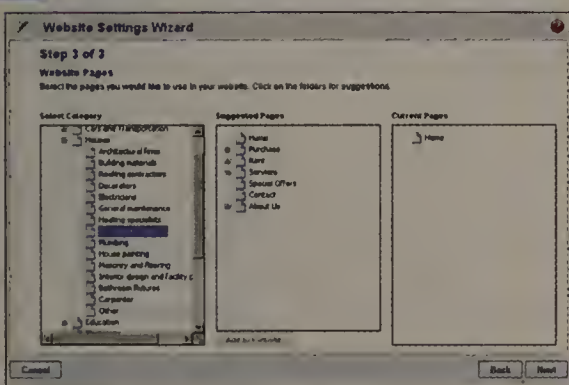
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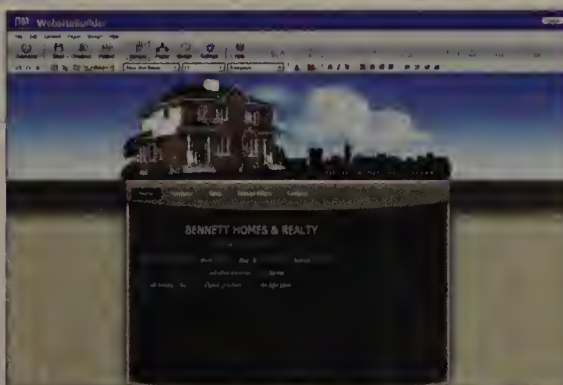
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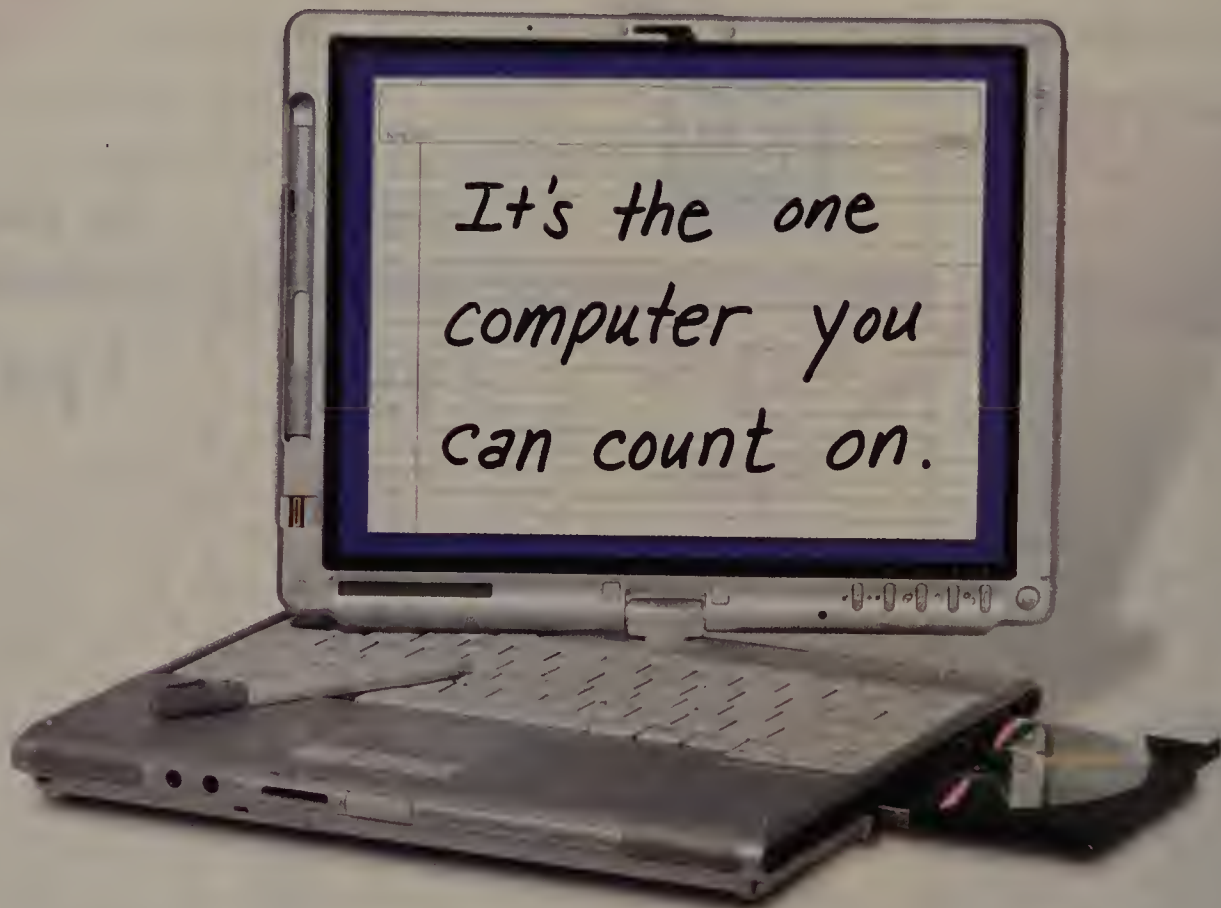


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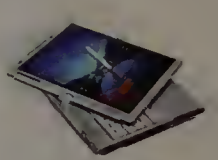
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IN 1983, *PC World*'s founders had a brainstorm: Why not create an honor roll of terrific products in an array of categories? Their inaugural "World Class PC Contest" celebrated 14 very old-school items. (Hey, back in those days a monochrome dot-matrix printer could be the essence of cool.)

Fast-forward to 2006. The competition we now call the World Class Awards remains a popular yearly extravaganza, and not just in its traditional dead-tree form: 2005's version was by far the best-read story in the history of our Web site.

This year's edition—"The 100 Best Products of the Year"—starts on page 82. Once again, the festivities span both print and online. Head over to find [pcworld.com/53158](http://pcworld.com/53158) to see an expanded version offering extras such as online video and,

on June 6, a live chat session with Senior Writer Alan Stafford, who edited the feature and spearheaded the weeks of meetings, ballots, and impromptu hallway dialogues that determined our winners.

Perusing this year's roster, I'm struck by its sheer diversity. "The products we cover extend far beyond the PC, because technology today means so much more than simply sitting at a desk hammering away at a spreadsheet," Alan explains.

**\* WONDERING WHY** "The Best Products of the Year" appear in our July issue? Glad you asked. For eons, we doled out trophies during the mid-year PC Expo show. The show died, but the awards still flourish. Call them "The Best Products at This Particular Moment," if you prefer...



**WORLD CLASS HONCHO** Stafford with a few of our 100 winners.

"Traditional computing products are still important, of course, but our winners also reflect the smart technology that can now be found in everything from Web services to consumer electronics."

Does ranking such far-flung items from 1 to 100 seem quixotic? There was plenty of method to our madness: *PCW* editors painstakingly rated every contender on multiple measures. As always, the ultimate benchmark was whether a product or service did something worth doing, and did it well—a question that was equally applicable whether what we were judging was a laptop, a security suite, a music service, or an HDTV set.

But this year, we formally took each nominee's impact into consideration as well as its excellence. Those that were influential and widely adopted scored points here, including 2006's Product of

the Year, Intel's Core Duo processor platform, which showed up both in powerful new Windows notebooks and in the first Macs that can dual-boot into Windows.

We took pains, however, to ensure that the list didn't devolve into a parade of items you already know about. In fact, I'd never heard of some of the products until a colleague made an impassioned case for them. (One example is JavaCool's EULAlyzer Personal, which gives cryptic, interminable software end-user agreements the once-over so you don't have to.)

Another methodology tweak for 2006: For the first time, we told editors to rate contenders for the list regardless of price tag. "That helped some products, like Yamaha's RX-V4600 receiver, which sells for \$1200," says Alan. We had a hunch, though, that this approach wouldn't result in big-ticket luxuries pushing out useful bargains, and it didn't. In fact, more than a quarter of the winners are free applications and services—the latest evidence that we technology users are truly living in a golden age of freebies.

If these awards are anything like last year's, they'll be read, reread, debated, and dissected until it's time for us to do our World Class thing all over again. And that's part of the fun. Let the conversation begin: Write me at [mageditor@pcworld.com](mailto:mageditor@pcworld.com) with your take on our picks, and I'll report back at my Techlog blog ([blogs.pcworld.com/techlog](http://blogs.pcworld.com/techlog)). ■

*Harry McCracken is the editor in chief of PC World.*



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# NEWS & TRENDS

EDITED BY EDWARD N. ALBRO

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## DVD Goes High-Def

**HIGH-DEFINITION DVD PRODUCTS ARE HERE, BUT CONSUMERS STILL FACE A THORNY DILEMMA AS TWO INCOMPATIBLE FORMATS BATTLE FOR THEIR DOLLARS. BY MELISSA J. PERENSON**

AFTER MUCH BLUSTER and several false starts, high-definition DVD products for home and PC have arrived—but in two incompatible formats, Blu-ray Disc and HD DVD. That means buyers will have to carefully weigh their options as we wait to see which—if either—technology will inherit DVD's crown.

For the companies involved in developing the technologies, the stakes are high: In play is a lucrative pool of licensing fees, not to mention bragging rights for dominating the living room. Proponents in each camp are quick to point out the advantages of their format over the other, but in reality, the specs are more alike than not. (See our chart on page 22



**HIGH-DEF FOR the living room and PC:** Toshiba's HD DVD player, the HD-A1 (\$500, above); Pioneer's Blu-ray BDR-101A burner (\$1000) for computers.

for a rundown of the differences between HD DVD and Blu-ray, as well as a list of released and upcoming products for each format.)

The most significant difference between the two is the number of high-definition

Hollywood movies that should become available for each format. Blu-ray Disc has the support of six major studios—all of the majors except for Universal, which is one of three studios backing HD DVD (the other two, Paramount and

Warner Brothers, are supporting both formats).

For now, early adopters have a clear choice—which format you pick depends on what you want to do with the device. The HD DVD camp's initial living-room players and read-only drives are solely for playing HD DVD movies. The first Blu-ray Disc products are PC-centric data recorders, though they'll also play Blu-ray Disc movies due out in June. We tested the first shipping products

from each side, and found that they lived up to the hype.

The trickle of devices will turn into a landslide later this year. Blu-ray especially has an impressive array of announced offerings on the way—but the prices are almost twice that of

comparable HD DVD devices. The first Blu-ray video players should cost \$1000 and up; you can score Toshiba's HD DVD player, the HD-A1, for \$500.

Also on the horizon: Microsoft will offer an external HD DVD drive for its Xbox 360 console, while Sony's highly anticipated PlayStation 3 will incorporate a Blu-ray drive.

### HD DVD FOR HOME

THE FIRST HD DVD player to ship, Toshiba's HD-A1, both impressed and disappointed.

The HD-A1 produced video that was eye-catchingly brilliant, as we observed with HD DVD movies such as *Serenity* and *The Phantom of the Opera*. And once you've seen the quality that a high-def movie can deliver, you'll be hooked.

We attached the HD-A1 to a Samsung 32-inch plasma TV, whose maximum resolution of 1080i matches the top output of the HD-A1. In the first 15 minutes of *Phantom*, the high-def advantage was clear, as compared with an upconverted standard-def *Phantom* DVD. Viewing the HD DVD, we observed more depth, better facial textures and skin tones on the dancers, superior handling of light, fewer artifacts, and details like the individual toes on the chickens' feet, which the comparison DVD rendered as blurry blobs.

But in design and mechanical playback, the HD-A1 falters. The unit is bulky, its buttons felt slow to respond, jumping among different parts of a disc was sluggish, and, most critically, the time the unit took to begin playing after we inserted the disc

seemed interminable. Plus, the unusually long remote is awkward to handle. These design quirks are the harder to swallow considering this is a next-generation product targeted at home theater lovers, who are used to the fast response and polished designs of today's DVD players.

We also got a sneak peek at Toshiba's \$3000 Qosmio G35-AV650, the first notebook containing a read-only HD DVD drive. This model, shipping in June, is a hefty desktop replacement unit packing

Today, which format you pick depends on what you want to do: play back video only, or record data as well.

a 2-GHz Intel Core Duo T2500 chip, 1GB of RAM, 200GB of hard disk storage, a 17-inch, 1920-by-1200 display, nVidia GeForce Go 7600 graphics with 256MB of memory, an analog TV tuner, and HDMI output at 1080i.

### BLU-RAY BURNERS

THE FIRST BLU-RAY offerings—Pioneer Electronics' BDR-101A (\$1000) and Sony's AR Premium VGN-AR19G laptop (\$3500)—are intended more for video and data burning, not home entertainment.

We tested the production-level BDR-101A drive using BD-R media from TDK, and close-to-final software from Sonic Solutions. The unit's appeal for data and video burning is undeniable: In *PC World's* tests, we were able to

pack about 22GB on a single write-once disc (nearly five times the 4.7GB capacity of a single-layer DVD disc), in around 45 minutes. We achieved a throughput of 67 megabits per second, which is very close to the theoretical maximum of 72 mbps—or 9 megabytes per second—for 2X BD-R. It took just a bit longer than that to copy the same disc back to the hard drive.

The promise of so much capacity on a single disc is alluring, not only for storing video and music, but also for streamlining data backups. Backing up your data with the Pioneer will take a little bit longer than burning five single-layer DVD-Rs, but you'll save time compared with burning the same capacity to double-layer DVD+R. And that's not counting the time for disc swaps.

(Blu-ray movies were unavailable in time to test playback.)

However, Pioneer made some sacrifices to rush the BDR-101A to market. It does not read or write to CDs, and its write speeds to standard DVD formats are slower than with a dedicated DVD burner (8X DVD+R versus 16X for a standard DVD drive, for example). It also does not write to dual-layer 50GB BD media. The second wave of burners, due this summer, will handle CD writing and dual-layer writes, making those drives more appropriate for data pack rats who want maximum storage capacity.

Another drawback: The drive, geared for the professional authoring market, lacks any software for disc authoring and packet writing. ►

## IN BRIEF

### Product Pipeline

**MICROSOFT BETAS:** It's raining public betas in Redmond. Beta 2 of Microsoft Office 2007—which won't expire until the shipping product is in stores (in early 2007, Microsoft says)—is available for free download at [find.pcworld.com/53618](http://find.pcworld.com/53618); read about it at [find.pcworld.com/53620](http://find.pcworld.com/53620). And Beta 2 of Internet Explorer 7 for Windows XP SP2—the first IE 7 beta intended for a general audience—is also available for download (go to [find.pcworld.com/53626](http://find.pcworld.com/53626)); see our commentary at [find.pcworld.com/53630](http://find.pcworld.com/53630).



**PALM'S TREO 700P:** A Palm OS-based version of the Treo 700—the first Palm to support fast EvDO data networks—should be on sale by the time you read this. The Treo 700p is in many ways a lot like its Windows Mobile-based predecessor, the Treo 700w—but with improvements such as out-of-box support for its use as a high-speed wireless modem (if you buy a data plan providing that functionality).

By contrast, the first laptop to boast a Blu-ray burner, Sony's VGN-AR19G, is clearly aimed at consumers. Out in June, the 8.8-pound unit had a preproduction drive, so we did not test its speed. But we had no problems playing discs we recorded in the Pioneer on the Sony, and vice versa.

For its price, you get a 2-GHz Core Duo T2500 processor, 1GB DDR2 memory, a 17-inch screen powered by nVidia GeForce Go 7600 GT graphics with 256MB of RAM, a TV tuner, and HDMI connectors, making it a well-equipped, if pricey, desktop replacement system.

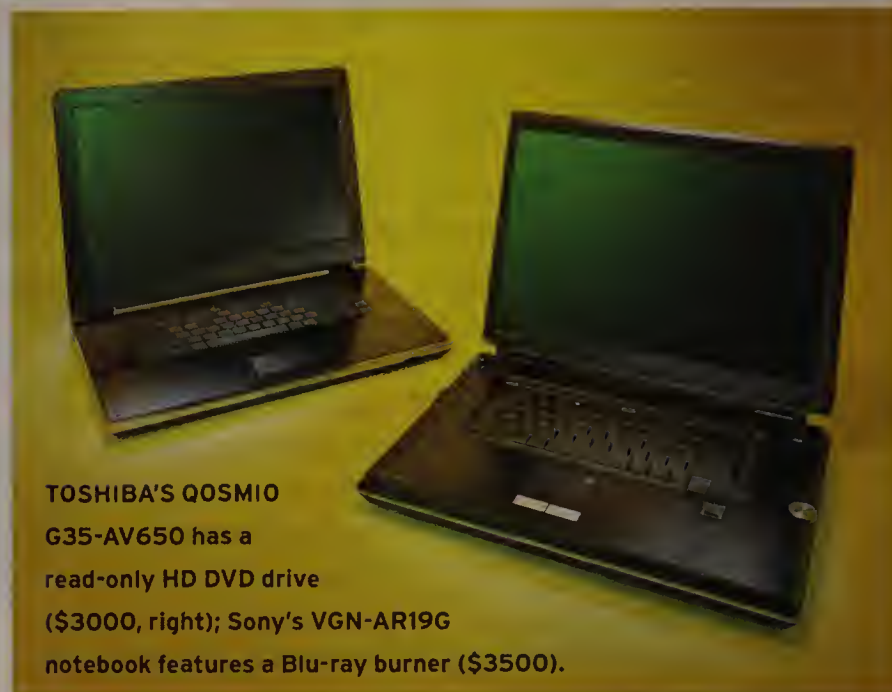
### CAVEATS AHEAD

CLEARLY, THESE new formats offer something beyond what today's DVDs can. As

with any new format, however, change is already on the horizon—and you should be cautious before you leap.

For one thing, while the first Blu-ray Disc players for the living room, due out this summer, output at 1080p, none of the first-generation HD DVD players do so: 1080p produces smoother action sequences than 1080i. The latest HDTVs support 1080p, and Universal and Warner Brothers already encode their HD films at 1080p. Second-generation players will support 1080p, according to the HD DVD Promotion Group, but release dates are not set.

Another consideration: no managed content. All first-generation Blu-ray and HD DVD devices use an interim version of the copy-protection



**TOSHIBA'S QOSMIO G35-AV650** has a read-only HD DVD drive (\$3000, right); **Sony's VGN-AR19G** notebook features a Blu-ray burner (\$3500).

scheme, which doesn't support the ability to legally copy a movie from disc to disc, or to another device, like a portable player (see [find.pcworld.com/53540](http://find.pcworld.com/53540) for details).

Yet another gotcha: To enjoy the full-resolution HD image, you'll need a High-

bandwidth Digital Content Protection connection over DVI or HDMI (go to [find.pcworld.com/53542](http://find.pcworld.com/53542) for more on HDCP). Any HDTV with HDMI should be covered, but many PC monitors and older sets with DVI only may not. An HD copy-protection element allows Hollywood studios to degrade output over analog or non-HDCP video connections, to 960 by 540 pixels—half HD's full resolution. Most studios say they won't do this at the outset, but the capability exists—and many of those same studios made sure it was available.

And don't expect either camp to ship any living-room recorders until end of year or the beginning of 2007.

Too many factors are still up in the air to pick a winner in this format war. In terms of hardware, studio commitment, and pure specs, Blu-ray has the edge. However, HD DVD's significant price advantage may end up deciding the issue. If you don't need to be the first on your block with an HD movie player or you don't have dozens of gigabytes to archive, you may be best off waiting a bit to take the high-def DVD plunge.

## FEATURES COMPARISON

### SIDE BY SIDE: TWO FLAVORS OF HIGH-DEF DVD

BLU-RAY AND HD DVD specs are similar, but product types, costs, and availability vary widely.

| SPECIFICATIONS                             |                     | Blu-ray Disc (BD)                                                                                                                                                                              | HD DVD                                                                                                                                                   |
|--------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capacity                                   |                     | 25GB single-layer BD-R/RE <sup>1</sup> /RDM; 50GB dual-layer BD-R/RE <sup>1</sup> /RDM                                                                                                         | 15GB single-layer R/RDM, 30GB dual-layer R/RDM, 20GB RW/RAM, 45GB triple-layer HD DVD-RDM                                                                |
| Throughput                                 |                     | 1X BD = 36 mbps <sup>2</sup>                                                                                                                                                                   | 1X HD DVD = 36.55 mbps <sup>2</sup>                                                                                                                      |
| Price of media                             |                     | \$20 for BD-R, \$25 for BD-RE                                                                                                                                                                  | Not available <sup>3</sup>                                                                                                                               |
| Announced movie titles (through June 2006) |                     | 13                                                                                                                                                                                             | 30                                                                                                                                                       |
| DEVICES                                    | June 2006           | Pioneer BDR-1D1A rewritable drive (\$1000); Sony AR Premium VGN-AR19G notebook with Blu-ray burner (\$3500)                                                                                    | Toshiba HD-A1 player (\$500), HD-XA1 player (\$800); Toshiba Dossmio G35-AV65D laptop with read-only HD DVD drive (\$3000)                               |
|                                            | Summer 2006         | Samsung BD-P100D (\$999), Pioneer BDP-HD1 (\$1800), and Sony BDP-S1 (\$1000) players; Sony VGC-RC310G (\$2250) PC; PC burners from BenQ, I-O Data, LG, Lite-On, Samsung, and Sony <sup>4</sup> | RCA HDV500D player (\$500); Acer Aspire 9800 laptop with read-only HD DVD drive (\$2600)                                                                 |
|                                            | Fall 2006 and later | Panasonic DMP-BD1D player (September, \$1500); Panasonic PC burner <sup>4</sup> (September); Sony PlayStation 3 console (November, \$499 and \$599); living-room recorders (Winter 2006)       | Xbox 360 console external HD DVD drive <sup>4</sup> ; living-room recorders (Winter 2006)                                                                |
| Bottom line                                |                     | With wider studio support, better specs, and data burning here today, Blu-ray has tons of potential. But being on the cutting edge will cost you dearly.                                       | HD DVD devices currently deliver high-def content at a more reasonable price, but you'll find fewer hardware choices—and ultimately fewer movie choices. |

**FOOTNOTES:** <sup>1</sup>RE is Blu-ray's rewritable disc format. <sup>2</sup>CD and DVD throughput is expressed in megabytes per second (MBps); 36 megabits per second is 4.5 MBps, and 36.55 mbps is 4.57 MBps. <sup>3</sup>Media pricing not yet available. However, pricing is expected to be comparable to Blu-ray's. <sup>4</sup>Pricing and/or timing not yet announced. **CHART NOTES:** Both formats support the following video codecs: MPEG-2, MPEG-4, AVC, and VC-1. Both also support (at minimum) the Advanced Access Content System (AACS) copy-protection scheme. And both can play standard DVDs.

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## NETWORKING

# First Draft-N Wi-Fi Gear Disappointing

NETWORKS BASED ON DRAFT OF THE 802.11N STANDARD AREN'T THE FASTEST AVAILABLE.

THE IMPENDING 802.11n Wi-Fi standard, which promises spectacularly fast networking, won't be final for months. But products based on the first draft of the standard are here. After conducting preliminary testing, however, we recommend that you pass on draft-n gear unless you simply must buy now.

## BY THE NUMBERS

IN OUR TESTS, with WPA2 encryption turned on (see below), shipping draft-n-compliant routers and PC Cards from Buffalo Technology's Nfiniti, Linksys's Wire-

less-N, and Netgear's RangeMax Next lines were slower at close and medium ranges than older Linksys SRX400 products based on the Airgo Networks True MIMO Gen3 technology we looked at in February (see [find.pcworld.com/53514](http://find.pcworld.com/53514)). And while the average medium-range speed of 24 megabits per second for the draft-n products was more than double the 11-mbps rate for a standard 802.11g network with no speed-boosting technology, it still fell far short of 10/100 ethernet's 80 mbps.

At long-range distance, Netgear's RangeMax Next router



WI-FI BEFORE ITS time? Netgear's RangeMax Next (left) and Linksys's Wireless-N routers comply with an early version of 802.11n.

and PC Card did beat the SRX400 products (and all others in our test group)—but the Buffalo and Linksys could not hold a connection long enough to complete the test.

Products based on the same draft-n chips from Broadcom (the Buffalo, Linksys, and Netgear RangeMax Next lines) worked together fine. But Netgear's RangeMax Next Gigabit Edition router (with a gigabit ethernet switch and based on Marvell chips) con-

nected to the Broadcom-based products only at 802.11g speeds (Netgear says it has since fixed this with a firmware upgrade). Draft-n products using different chips also differ in how they handle interference from nearby networks (see [find.pcworld.com/53556](http://find.pcworld.com/53556) for more information).

The final 802.11n standard promises theoretical throughput up to 12 times as fast as 802.11g's and interoperability certification by the Wi-Fi Alliance. Vendors hope—but don't guarantee—that you will be able to upgrade draft-n gear to the final standard.

## TEST REPORT

### DRAFT-N GEAR PROVES INCONSISTENT

FILE TRANSFER SPEEDS on networks based on gear using Broadcom's draft-802.11n chips were generally slower than on a network employing Airgo Networks' True MIMO Gen3 technology.

| ROUTER/PC CARD                                                                                                                                                                  | THROUGHPUT              |                           |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------|-------------------------|
|                                                                                                                                                                                 | Close range<br>(5 feet) | Medium range<br>(25 feet) | Long range<br>(50 feet) |
| <b>Draft-n product lines (based on Broadcom chips)</b>                                                                                                                          |                         |                           |                         |
| Buffalo AirStation Nfiniti Wireless Router & Access Point (WZR-G300N) and Notebook Adapter (WLI-CB-G300N)<br><a href="http://find.pcworld.com/53544">find.pcworld.com/53544</a> | 26.1 mbps               | 19.3 mbps                 | Failed                  |
| Linksys Wireless-N Broadband Router (WRT300N) and Notebook Adapter (WPC300N)<br><a href="http://find.pcworld.com/53546">find.pcworld.com/53546</a>                              | 27.5 mbps               | 24.3 mbps                 | Failed                  |
| Netgear RangeMax Next Wireless Router (WNR834B) and Adapter (WN511B)<br><a href="http://find.pcworld.com/53548">find.pcworld.com/53548</a>                                      | 25.8 mbps               | 24.3 mbps                 | 10.9 mbps               |
| <b>802.11g with proprietary MIMO technology (based on Airgo Networks' True MIMO Gen3 chips)</b>                                                                                 |                         |                           |                         |
| Linksys Wireless-G Broadband Router with SRX400 (WRT54GX4) and Notebook Adapter (WPC54GX4)<br><a href="http://find.pcworld.com/53552">find.pcworld.com/53552</a>                | 42.6 mbps               | 30.7 mbps                 | 2.4 mbps                |

**HOW WE TEST:** Speeds based on time required to transfer an 87MB file. Higher numbers are faster. For details, see [find.pcworld.com/53554](http://find.pcworld.com/53554).

## WAIT IF YOU CAN

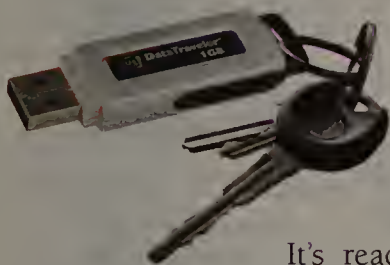
GIVEN THE underwhelming performance and the interoperability and interference issues of draft-n, we recommend waiting. But if you must buy right away, go with Airgo Gen3-based products for performance and stability; consider similarly priced draft-n gear (\$150 to \$180 for routers with 10/100 ethernet, \$120 to \$130 for PC Cards) if you want a chance of upgrading to the eventual standard. And if you do buy draft-n, look for firmware upgrades to enhance performance.

—Becky Waring



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April 11, 2006  
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Go to [find.pcworld.com/53008](http://find.pcworld.com/53008)

## MEDIA PLAYERS

# New Windows Media Player Looks Good

BETA OF WMP 11 FEATURES STREAMLINED INTERFACE AND INTEGRATED SEARCH.

MICROSOFT IS PUTTING a new face on Windows Media Player, the app's biggest overhaul in years. The beta of the updated client offers a clean-

er, Vista-like interface and improved handling of large libraries and album art. MTV's Urge, a music store and portable-subscription

service, is tightly integrated with the player. In a test drive of the new version, we were impressed by Media Player's streamlined, yet powerful new

appearance. Browse to [find.pcworld.com/53594](http://find.pcworld.com/53594) for a full look at both Windows Media Player 11 and Urge.

—Eric Dahl

## TEST REPORT

**WMP 11 FOCUSES** on using the center pane and search boxes for navigation. The never-ending drop-downs of the old Artist/Album view are gone.

**INTEGRATED SEARCH HELPS** you drill down through large libraries to exactly the song, artist, or album you want. The best part: It's amazingly fast, updating results with each press of the key.

**A UNIVERSAL** Back button lets you retrace your steps whether you're browsing a subscription service or your own library. And a handy drop-down lets you manage other types of media in your collection.

**ALBUM ART TAKES** on a greater significance in WMP 11. The player's artist view stacks up images to give you another visual cue when navigating your collection.

**HERE'S HOW** streamlined Media Player can get: If you grab a corner and resize the window to its smallest point, it collapses into a clean, compact player with only the most essential controls and playback data visible.

**ENHANCED CD burning** automatically spans multiple discs when necessary and clearly shows how much space remains on the last disc.

**IN ANOTHER TOUCH** from Windows Vista, WMP features greatly simplified menus, with the most important choices made available by clicking on the bottom of the menu button.

**NEW VIEW OPTIONS** let you browse your collection using icons, text, or this Expanded Tile display.

| Album              | Title                      | Length | Rating | Bit Rate |
|--------------------|----------------------------|--------|--------|----------|
| Mass Romantic 2000 | 1 Mass Romantic            | 4:11   |        | 191 Kbps |
|                    | 2 The Fake Headlines       | 2:45   |        | 192 Kbps |
|                    | 3 The Slow Descent into... | 3:56   |        | 193 Kbps |
|                    | 4 Mystery Hours            | 3:11   |        | 191 Kbps |
|                    | 5 Jadée                    | 2:46   |        | 320 Kbps |
|                    | 6 Letter from an Occup...  | 2:46   |        | 320 Kbps |
|                    | 7 To Wild Homes            | 3:33   |        | 320 Kbps |

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## CONSUMER ALERT

# Beware of Mailed Ads That Look Like Bills

LISTING CORP. AND OTHERS SEND DOMAIN NAME OWNERS SERVICE PITCHES VIA U.S. MAIL.

THE DOCUMENT THAT arrived in the mail at the San Diego chapter of the American Society for Industrial Security looked just like a bill, complete with a perforated mail-in section and an envelope for sending payment.

"It had our domain name on it, and it looked like an invoice, so we paid it," explains Herb Thompson, chairman of ASIS San Diego.

But the document was actually a marketing pitch from a company called Listing Corp. For \$60, the company wrote, it would submit ASIS's Web site to 20 unspecified major search engines and follow up with quarterly e-mail reports. On the back of the document, in boldface capital letters, was a disclaimer: "This is not a bill. This is a solicitation. You are under no obligation to pay the amount stated above unless you accept this offer."

Thompson says ASIS never heard from Listing Corp. after sending payment, and keyword searches for ASIS a few months later produced no links to the organization's site. He feels his group was hoodwinked—and he isn't alone.

U.S. Postal Inspection Service spokesperson Paul Krenn says that following a "significant" number of complaints, the service is conducting a "review" to determine whether Listing Corp. is in violation of federal mail fraud laws. A Google search for 'Listing Corp.' turns up links to scores of complaints on blogs and

forums. And a spokesperson for MaxterHost.com, which had hosted Listing Corp.'s Web site, says it shut down the site in March because of complaints it received (the site has since reopened using another Web host).

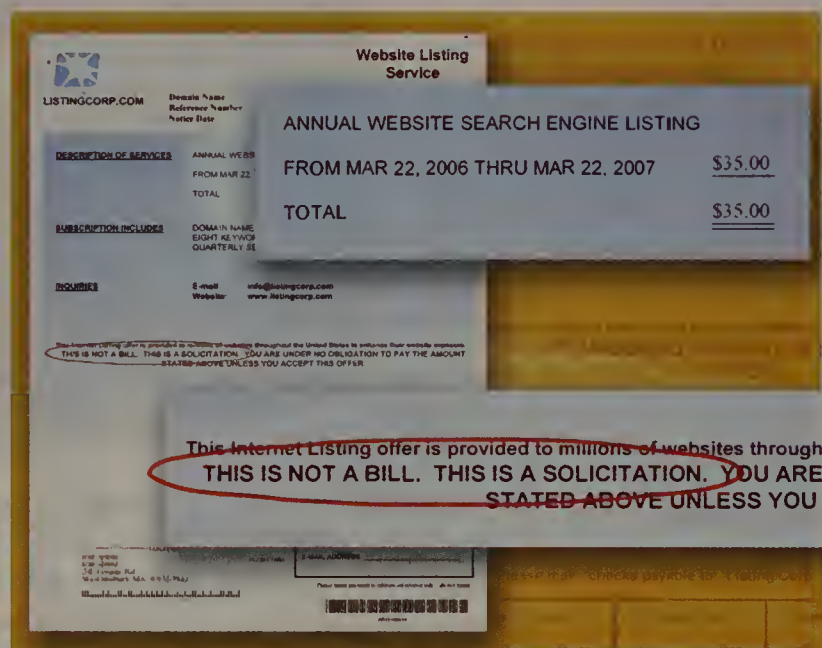
Listing Corp. did not respond to repeated e-mail inquiries to addresses in its domain registration informa-

In researching this article, we found more than a dozen sites with similar marketing pitches. Some were defunct and could be accessed only by using Google's cached versions. The ones that were live in late April included three that have also drawn complaints for postal mailings: Internet Corporation Listing Service ([www.icls.net](http://www.icls.net)), regis-

"We take consumer complaints seriously and address any such situations immediately and cooperate fully with the appropriate governmental and consumer advocacy organizations," Zach said, adding that the firm has a "no questions asked" refund policy.

The Chicago Better Business Bureau has received 22 complaints about the company in the past 15 months, spokesperson Tom Joyce said, adding that the complainants eventually received refunds.

Zach said his company was not related to any of the look-alike services we found; but software that traces the IP addresses where sent e-mail messages are received indicated that our e-mail to both ILSCorp.net and ILSCorp.co.uk went to the same IP address, assigned to a computer somewhere in Canada.



**FINDING THE DISCLAIMER:** You have to read the back of Listing Corp.'s invoicelike direct-mail pitch to learn that it's not a bill.

tion. The telephone number in that database, '1.3251782', is incomplete, and the postal address is for a Mail Boxes Etc. box in New York City.

## NAME GAMES

LISTING CORP. IS just one of several firms that send similar mail to domain name owners. Over the past 15 months, the U.S. Postal Inspection Service Fraud Complaint System has logged 875 complaints about such mail, for losses totaling \$8161.

tered with a California address; Internet Listing Services Corp. ([www.ilscorp.net](http://www.ilscorp.net)), with a Netherlands address; and Internet Listing Service (or Services, depending on which page of the site you read) Corp. ([www.ilscorp.co.uk](http://www.ilscorp.co.uk)), registered in Azerbaijan.

Efforts to contact these companies produced just one response, a phone call from a man who identified himself only as Zach and said he worked in Chicago for Internet Listing Services Corp.

## CAREFUL READING

IF YOU RECEIVE questionable invoice-like mail, you can file a complaint with the FBI's Internet Crime Complaint Center ([www.ic3.gov](http://www.ic3.gov)), the Federal Trade Commission ([find.pcworld.com/53238](http://find.pcworld.com/53238)), the U.S. Postal Service ([find.pcworld.com/53240](http://find.pcworld.com/53240)), or your local Better Business Bureau ([find.pcworld.com/53242](http://find.pcworld.com/53242)).

"I'm savvy enough to spot a scam," says New York photographer Martin Crook, who received two letters from Listing Corp. "But this thing really looked like a bill."

—Tom Spring



imagine having a better view of the big picture.

Imagine the potential you'll see in the 940T from Samsung. Thanks to its ultra-thin bezel, this 19" workhorse lets you move almost seamlessly from one monitor to another. A 1000:1 contrast ratio (1500:1 on the 17" 740T) renders graphics and type crystal clear — reducing eye strain to help keep you sharp, productive, and more profitable. With award-winning displays from Samsung, it's not hard to imagine. To learn more, visit [www.samsung.com/monitor](http://www.samsung.com/monitor)



# PLUGGED IN

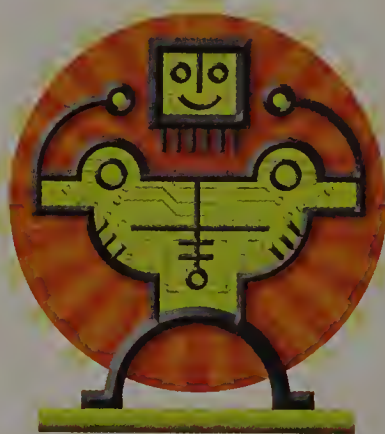
ERIC DAHL

## Faster Dual-Core Processors

PLUS: BUSINESS NOTEBOOKS GO WIDE SCREEN, AND WI-FI GETS TINY.

### PROCESSOR WARS

 **The Buzz:** Both AMD and Intel are shaking things up in the processor market as the chip titans prepare to launch new processors. AMD's transition is a simple one: By the time you read this, its desktop Athlon 64, 64-FX, X2, and Sempron lines will have moved to a new socket called AM2. The chief benefit of the socket change is support for DDR2 memory, which doesn't cost much more than standard DDR these days. That should provide a small speed increase for AMD-based PCs, but nothing like the boost expected from Intel's Core 2 Duo desktop chips, due this summer. Intel claims that its next-generation



CPU will provide a 40 percent increase in processing power and a 40 percent reduction in energy usage versus today's Pentium C 950 chips.

**Bottom Line:** If you need a new PC right this minute, an AMD-based AM2-socket system is a solid choice. But if you can hold off a bit, and you don't mind the double-deuce references, it might pay to wait for the first benchmarks of Core 2 Duo PCs.

### WIDE SCREENS AT WORK

 **The Buzz:** As the tech industry continues its push to make sure that movies look good on every conceivable device, wide-aspect notebook panels are becoming cheaper and more common. That's leading some notebook vendors to consider adding them to even plain-vanilla laptops. Business notebooks from Fujitsu and HP are among the first to make the transition, but you can expect to see more business-focused wide screens this year. Heck, even Lenovo is offering a wide-screen model in its ThinkPad line.

**Bottom Line:** The wide-screen look may be all the rage, but if you're primarily browsing the Web and working on office documents, you'll quickly start to miss the extra vertical resolution you get from a comparable standard-aspect display. There's a reason books are taller than they are wide: Your eye can track only so far across a line.

### TINY SD AND WI-FI

 **The Buzz:** So your digital camera didn't come with built-in Wi-Fi? That's probably a good thing, since the Wi-Fi cameras we've test-

### HERE\NOW

- 1 NAPSTER RADIO:** New free offering lets you stream any track up to five times. [napster.com](http://napster.com)
- 2 BLURB.COM:** Beta site is attracting lots of buzz with its blog-to-book publishing option.
- 3 153 HOURS:** That's the claimed battery life you'll get from a single charge with MobiBlu's B153 flash-based MP3 player. [find.pcworld.com/53550](http://find.pcworld.com/53550)
- 4 INSTANT MEDIA:** Free client downloads and caches Internet video; it even delivers popular tech videoblog Rocketboom in HD. [im.com](http://im.com)
- 5 POPULAR SITES:** An easy way to track new additions to [del.icio.us](http://del.icio.us). [www.populicio.us/](http://www.populicio.us/)

ed haven't impressed. Plus, soon you'll be able to easily add Wi-Fi to any camera that uses SD Cards. A start-up called Eye-Fi is behind the technology, which packs a Wi-Fi adapter into a standard-size SD Card along with 1GB of storage. Eye-Fi's \$100

Eye-Film card can even automatically upload images to your computer or an online photo sharing service.

**Bottom Line:** Isn't miniaturization great?

Let's hope the Eye-Fi folks can make this work with more than just cameras. I know plenty of Treo users who'd love this card. ■



You can contact PC World Senior Editor Eric Dahl at [eric\\_dahl@pcworld.com](mailto:eric_dahl@pcworld.com); visit [find.pcworld.com/31643](http://find.pcworld.com/31643) to read additional Plugged In columns.

### FUTURE TECH

## BETTER CPU COOLING

IF YOU'VE EVER been concerned about all the heat your PC generates, you're probably familiar with thermal grease, a compound used to fill in the microscopic gaps between a computer's CPU and its heat sink. This type of thermal interface material helps to conduct heat away from the chip; the more efficient the TIM, the better the cooling. With processors getting faster (and hotter), researchers at Purdue University have been working to improve this interface, using carbon nanotubes. By arranging a "carpet" of heat-conducting nanotubes on both surfaces, the engineers say they've created a high-tech Velcro of sorts that conducts heat dramatically more efficiently than current TIMs do.

# THE POWER OF TWO

*Kodak Retina dual lens technology sets new standard in digital photography*

**Two lenses = one tiny package.** That's the premise behind the new Kodak EasyShare dual lens digital cameras. Kodak Retina dual lens technology has created the world's smallest 10X optical zoom digital camera and the world's smallest ultra wide-angle digital camera—yet there is still plenty of room left for all of the powerful features you want, minus the big carrying case.

## THE ULTIMATE DIGITAL CAMERA EXPERIENCE

The **Kodak EasyShare V610 dual lens digital camera** is the newest addition to the dual lens family. It is the world's smallest 10X optical zoom digital camera yet sports a wide range of leading edge features that combine to make a unique, enjoyable and productive digital photography experience for users. These features include a 10X optical zoom; Bluetooth® wireless technology to wirelessly share and print real Kodak pictures; one-touch picture fix and anti-blur technology insures beautifully crisp pictures; a large 7.1 cm (2.8") high resolution, indoor/outdoor display featuring a wide viewing angle; and the ability to capture image stabilized TV-quality video with audio at 30 fps (MPEG-4 compression). For a no compromise ultra wide-angle camera, the Kodak EasyShare V570 dual lens digital camera is the perfect choice.



### THE INGENUOUS, 6.1 MEGAPIXEL V610

- **World's smallest 10X optical zoom digital camera**
- **Bluetooth wireless technology**
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- **6.1 MP prints up to 30" x 40**
- **Image stabilized TV-quality video with audio**
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- **The exclusive Kodak color science chip**



### ALL GREAT CAMERAS DESERVE GREAT PRINTS

*Printing your images from virtually any digital camera has never been easier. With the Kodak EasyShare photo printer 500, you can print waterproof, stain-resistant real Kodak pictures in seconds for as little as 29 cents each.\**



**Always choose Kodak memory cards.**

**Kodak**

### THE V570 WITH KODAK EASYSHARE

#### Photo Frame Dock 2

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Visit [www.kodak.com/go/V610](http://www.kodak.com/go/V610)

\*Based on PH160 Color Cartridge + Kodak Paper Kit purchase of \$46.99 or less (where available).

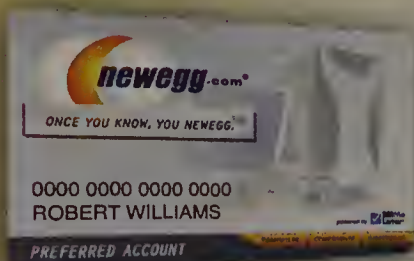
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# LETTERS

**E-MAIL ACCOUNTS:  
MORE IS BETTER?**

**HOW CAR GPS  
SHAVED A TICKET**

**SUPPORT ADVICE  
FROM A PRO**



## **FREEBIES: THUMBS UP, DOWN**

THANKS TO DYLAN TWENEY for “101 Fabulous Freebies” [May]! I downloaded two of the listed programs, Spybot Search & Destroy and Ad-Aware, and they solved a problem that had been vexing me for six months. (“Vexed” is a radically clean expression for what the little bug did to my computer and my attitude.) It’s particularly nice that he recommended both programs, as what one misses the other gets. Many, many thanks.

*Mac McCauley, Oregon City, Oregon*

YOUR EXCELLENT ARTICLE missed one organizational tool that has been in constant use on my computer ever since Steve Bass recommended it in his online *Tips and Tweaks* column from last October [find.pcworld.com/53518].

Anyone who is attempting to keep on top of personal and professional data should give EverNote (www.evernote.com/en) a try. A paid version of the program is available, too, but I have been very happy with the freebie.

*Carol Campbell, Truro, Nova Scotia*

## **TELL US WHAT YOU THINK**

RATE THIS ISSUE by going to [www.pcworld.com/pcwinpwt](http://www.pcworld.com/pcwinpwt)—you could win a \$300 gift certificate from Amazon.com. The site explains the official rules and offers an alternate method of entry into the prize drawing.

RECENTLY I NEEDED to print out my tax return, but I discovered that my printer was inoperative. Fortunately I had just installed PDF Creator (one of the freebies I found out about in your timely article).

I used the utility to make a standard PDF file, and then I e-mailed it to another location. In short, it’s a good thing the May issue came out before April 15!

Also, since I have a habit of folding over a corner of the pages that I wish to return to, this is a very dog-eared issue.

*Bart Bresnik*

*Mansfield, Massachusetts*

YOUR INTRODUCTORY PARAGRAPH says, “These are the real deal—no hobbled half-products or demos that time out after 30 days.” I beg to differ with regard to two downloads I checked out today.

One was Foxit Reader, which your article says includes “a ‘typewriter’ that lets you edit any text in the PDF.” Technically correct, but it shows a message declaring that any text typed in will contain markings that can only be removed by the full paid version of the program.

The other download, the free version of eFax, allows only two free outgoing faxes, despite the article’s implication that you can send and receive equally.

*Wallace Cassel, Eugene, Oregon*

**Editor’s response:** You zeroed in on the two items about which we’ve received

several complaints. We could have been clearer about the tools’ limitations, and we apologize for the confusion.

*—Laura Blackwell*

## **READERS’ TIPS ON EXTENDED WARRANTIES**

THANKS FOR AN excellent article [“Are Extended Warranties Worth It?” May].

I travel in my work, using PowerPoint presentations, and I bring along my own laptop and projector. To protect against theft and breakage, I obtained a rider on my house insurance for about \$50 a year that covers both devices.

Also, consider asking whether a warranty on your item could be negotiated—the insurance company’s offering, if available, likely would cost less than the vendor’s, as you’re already a client.

*Fred Plastow, Warsaw, Indiana*

ONE GOOD POTENTIAL source of extended warranties may be the product’s manufacturer, rather than the retailer. In researching a warranty for my 60-inch Sony TV, I found the best deal from Sony itself (\$229 for four years).

*Gary McCready, Salisbury, Maryland*

I CAN’T OVEREMPHASIZE the importance of an accidental-damage coverage policy for portable electronic items. My digital camera once slipped from my shoulder to a tile floor. Repairs, done at no charge but itemized on the invoice, came to more than three times the cost of the warranty—a bargain in my book.

*Dave Samuels, Spring Hill, Florida*

MANY STATES HAVE laws governing extended warranties. In my state, for instance, the law provides “automatic warranty protection [for four years] in addition to any ‘express’ written or verbal

warranty provided by a manufacturer or seller." This law covers "all new and used goods purchased for family, household or personal use"—just about every kind of product except used cars.

When seeking a repair for a defective TV that was beyond the manufacturer's warranty period, I brought our state law to the manufacturer's attention, and the maker repaired the unit at no cost to me.

*Bill Harrington, Denmark, Maine*

ONE POINT I would add to your article: Salespeople are often wrong about what is included in an extended warranty plan—the fine print may specifically exclude, say, accidental damage that the salesperson claims will be covered.

*Steve Landes, Glen Ellyn, Illinois*

### WHEN CARS GET TOO SMART

NOW WITH OnStar periodically sending you diagnostic stats about your car by e-mail [[find.pcworld.com/53510](http://find.pcworld.com/53510)] and with Microsoft getting into the fray ["Cars That Are Smarter Than You Are," *Gadget Freak*, May], I can't wait till a hacker breaks into a car's onboard computer and gives carjacking a whole new angle. Or for the day when the idiot

"General Protection Fault" warning lights up on the dashboard. It'll almost make the jokes from years ago look prophetic.

*Craig Steffler, Helena, Montana*

### A CLEAN E-MAIL ACCOUNT

IN THE MAY *Consumer Watch* ["The Ultimate Tech Consumer Guide"], you suggest creating a second e-mail account dedicated to online shopping. Good idea, though maybe not only for the reason—privacy—you put forth. I maintain several separate e-mail accounts: personal, business, buying, and junk (for Web sites that require an e-mail address).

To my knowledge, my buying account—in contrast to the others—has never received a single piece of spam. That tells me that the shopping sites I buy from do

not share my e-mail address with other parties. I can only say, Bravo for them!

*Karen Brown, Loudon, Tennessee*

### MORE THAN JUST DIRECTIONS

THAT WAS A nice write-up on the different online map services and GPS systems ["Never Ask for Directions Again," May]. I have used both of the USB GPS systems [reviewed online at [find.pcworld.com/52540](http://find.pcworld.com/52540)], and I prefer the Earthmate.

One thing not mentioned in the story is the wonderful ability to record and play back your trip. After being pulled over for speeding and charged with going 16 mph over the limit, I went to court and was able to show my route, speed, and direction. It knocked the ticket down to 6 mph over and put \$60 back where it belonged.

*Dan Ripley, Palmetto, Georgia*

YOU GAVE HIGH marks to MapQuest for accuracy. However, for almost a year the Utah Department of Transportation has been trying to get MapQuest to update information on renumbered exits for the state's major north-south highways—so far to no avail. On a map and accompanying directions that MapQuest provided me in March, the stated exit numbers were still wrong.

*Walter Bornemeier, North Salt Lake, Utah*

### RECORD WAIT FOR A REBATE?

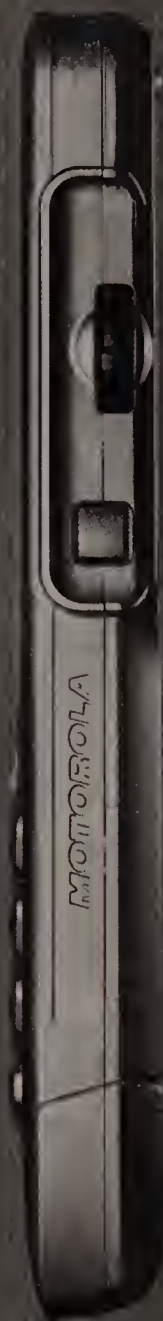
AS A SUBSCRIBER since the late eighties, I've seen my share of letters to the editor about rebate problems. I'm writing because I just got a check in the mail. Since I wasn't expecting it, I surmised it must be an old rebate. My current records go back only to 2004, and it wasn't among them. I didn't think it could be any older, but I dug out earlier records, and sure enough, there it was—a claim sent on August 24, 2003! So maybe the lesson is that you're supposed to wait for years, not months, for that precious rebate.

*Michael S. Comeau*

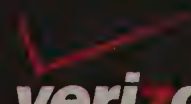
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to come in the mail.

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How .45" thin  
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## THE MOST IMPORTANT FUNCTION OF A CELL PHONE

IN THE MARKET for a new cell phone, I was looking through your reviews ["Pick the Perfect Cell Phone," June, and other reviews at PCWorld.com].

Remarkably comprehensive! You seem to address everything from the operating system to the battery life, from the games available to how well the thing will toast a bagel. Your reviews discuss just about everything that a person could possibly want to know about a specific phone, except—*how well does it work as a phone?*

In particular, I am interested in knowing which cell phones provide the best reception in areas where the carrier's signal is weak. And how good is each device's audio reproduction? Discussions with friends suggest that I'm far from alone in wanting this kind of information.

Seems to me that your phone reviews are slanted almost exclusively toward early adopters and technology geeks—those consumers who happen to enjoy spending their time playing with built-in cameras, background images, ring tones, and 87 other features that have nothing to do with the core function of wireless voice communication.

Perhaps future phone reviews could be broken into two parts: function as a cell phone, and bells and whistles. By doing so, I think you would provide a service to a much wider audience.

*Jim McCormack, San Diego*

## SUPPORT TIPS FROM A PRO

DESPITE THE LINE on the June cover—"Never Call Tech Support Again!"—you probably will have to call for help sometime. Will you get the support you want?

I work as a PC tech for the City of Omaha and Douglas County, supporting 3400 machines, associated users, and multiple networking technologies. I worked previously as a customer service

rep in the insurance industry for over 14 years. If I've learned anything about getting good service, and quickly, it is that it takes more than just not being rude.

Be nice and be willing to push compliments up when they are due. The tech wants to help you and will help you. That person did not cause the problem you want fixed, and doesn't have the intimate knowledge you have of your own system.

Be prepared to listen. Have a notepad handy. Ask for and write down a case or reference number for your call. The representative will often give you their name and ID number. Use their name, and be appreciative. "Jane,

thank you for helping me with my printer" will go farther than "Okay, it works now [click]," because invariably you'll call back for help with something else and you may get that same person.

Part of what grooms an okay tech toward becoming a stellar one is getting a caller who wants to tell their boss that they did a great job. That's why you keep a notepad nearby and request the representative's ID. Managers and supervisors live for escalations that begin with "No, it's not a problem. In fact, Jane was so nice and thorough that I wanted to make sure her managers knew about it." Be ready to explain exactly why you are complimenting the tech.

All of this will help keep that good tech available to you for the next call.

*Michael Parkinson, Omaha, Nebraska*

## COREL WORDPERFECT OFFICE

KUDOS FOR ACKNOWLEDGING Corel WordPerfect Office as superior to Microsoft Office ["WordPerfect Office: A Better App Mix, for Less," *Reviews and Rankings*, June]. Your reviewer, Dennis O'Reilly, recognized a very powerful feature of WordPerfect—that is, its ability to give you finer control over the look of a document via the Reveal Codes option.

The software's other important features should be noted, as well. One is the pro-

gram's ability to open and save Microsoft Word documents in their native format. While WordPerfect will convert Word documents, Microsoft's Office does not convert WordPerfect documents. And WordPerfect's Word Compatibility Toolbar gives you the option to save your documents in any of several formats: Word, PDF, HTML, or XML. Invaluable!

Another consideration to bear in mind is that Corel will give you an unconditional 30-day free trial of the suite.

*Paul Garatt, Paducah, Kentucky*

## KEEPING UP WITH DIGITAL PHOTOGRAPHY

DIGITAL PHOTOGRAPHY IS coming into its own now. The pace of technological advancement in this realm is truly astounding to us old-timers. Shortly, digital "film" will surpass the image quality of real film, and the end of such progress is nowhere in sight.

These technological improvements allow more people to do serious photography. I know dozens of amateurs who have high-end cameras and want high-end results. And I believe that artistic expression is a deep-seated human need.

For these reasons, I would encourage you to expand your coverage of products and technologies for high-quality, high-end digital photography.

*Bob Hall, Nantucket, Massachusetts*

PC World welcomes letters to the editor. We reserve the right to edit for length and clarity. Send e-mail to [letters@pcworld.com](mailto:letters@pcworld.com). ■

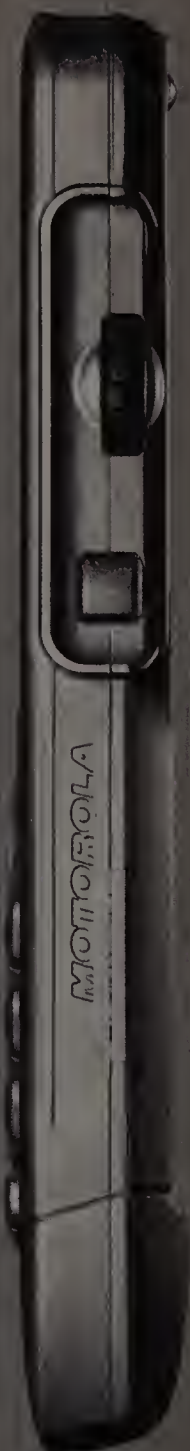
## CORRECTIONS

IN THE JUNE issue's "New Devices Promise Protection in a Box" (*News and Trends*), one product—the Spam Cube—was, in one instance, incorrectly named.

In the May *Hardware Tips*, the instructions for updating your graphics board's device driver should have said to visit the vendor's Web site and search for a new driver for your card model on the site's Downloads or Support pages.

PC World regrets the errors.

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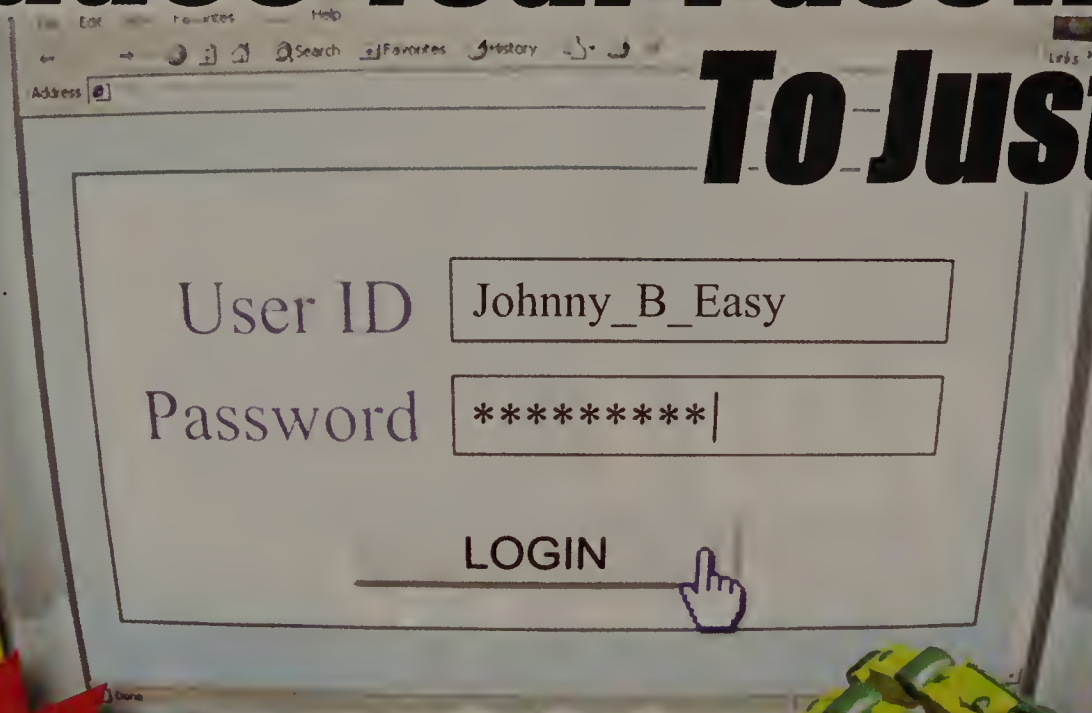
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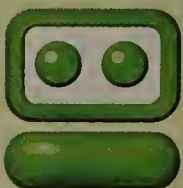
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## Cell Phone Fees That Sneak Up on You

**New services are designed to add a few bucks to your monthly bill.**

I USED TO think that the hardest part about owning a cell phone was settling on a rate plan: How many anytime minutes? How many prime-time minutes? National or local? Should my husband and I get a family plan? But lately I'm thinking that the bigger challenge involves figuring out how to keep track of all the ways carriers and their partners are trying to milk me for additional dough.

Wireless carriers have jargon for this topic: ARPU (or just RPU), pronounced "ahr-pooH." The acronym stands for Average Revenue Per User (or Revenue Per User), and carriers are forever trying to raise it—that is, to squeeze more money out of us hapless users. Increasingly they're doing it through new services offered on their high-speed data networks and the sophisticated handsets built for them.

### DATA IS GOLD

FOR CUSTOMERS, THE huge expansion in data services means that we'll be seeing a growing number of applications and services for everything from entertainment and companionship to shopping and GPS navigation aids. Some of these offerings will be ad supported, some will be subscription based, some will be pay-as-you-go, and some will be hybrids (some content may even be free, but with charges for premium features).

Where fees apply, they are usually indicated. (Be sure to note, however, whether it's a one-time fee or a monthly subscription.) For example, play a demo of the game Bejeweled on a Cingular phone (as

I did on my husband's Motorola handset, in the name of research), and you'll be asked whether you want to pay a few bucks to get the full version.

Fair enough, but apart from the way many small charges—for games, ring

aren't on an all-you-can-eat data plan.

Sometimes you get clues about impending charges: After I downloaded a game demo on my husband's phone, a message appeared saying that I'd used 46,000 bytes of his data plan's allotment.

But such on-the-fly notification is atypical. Listen to a snippet of a song in the Sprint Music Store, for example, and even if you don't buy it, you'll be charged for the data if you don't have a Vision data plan.

I should mention here that in researching this column, I was reminded of another cell phone pet peeve of mine, which is just how difficult it can be to determine cell phone service costs in general. Carriers often make you go through the motions of choosing a handset and signing up for service before they'll provide detailed information on what they'll be charging you.

### MONEY FOR MESSAGES

MESSAGING—INSTANT, text, picture, you name it—can be another stealth budget buster. That's because, regardless of your data plan, most carriers charge separately for messaging.

On Verizon Wireless, for example, you pay 10 cents per message sent or received. Again, heavy users of messaging services can save money by purchasing bundles: Verizon offers a \$10-a-month messaging plan that covers unlimited messages to fellow Verizon customers, plus 500 messages to non-Verizon phone numbers; \$15 and \$20 plans cover 1000 and 2500 out-of-network messages, respectively.

The cost of text messaging may ►



tones, ring-back tones, music, and so on—can mount up, you might find additional charges that contribute to an unexpectedly big bill at the end of the month.

### BUCKS FOR BYTES

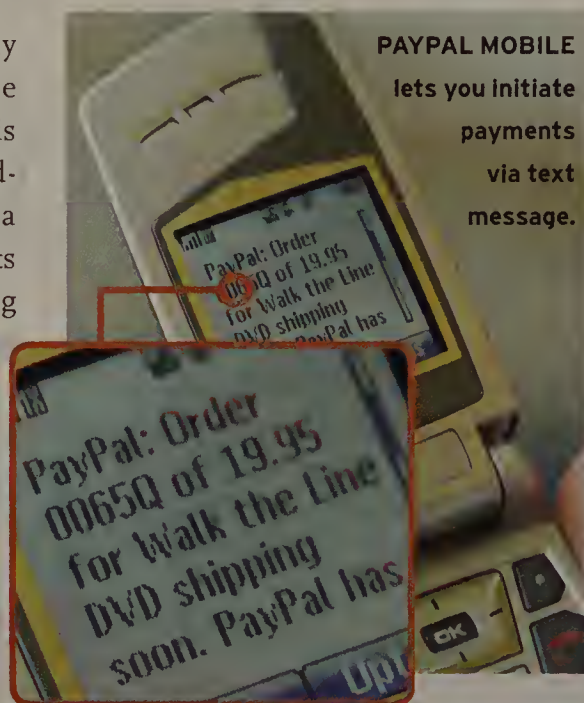
WHATEVER YOU DO that involves sending data, the biggest hidden expense can be charges for use of the network itself, normally the amount of data you both send and receive (measured in kilobytes or megabytes). You constantly run into the disclaimer "carrier charges may apply," but you rarely see how much bandwidth you're using and what it costs if you

come as a shock if you're accustomed to using AOL, MSN, or Yahoo instant messaging services on the desktop, where they're lumped in with all of your other Internet traffic and there's no economic incentive to keep conversations short.

On a cell phone, carriers typically limit text messages to a relatively terse 160 characters. But the bigger issue is that every message you send, regardless of how long or short it is, racks up a charge—typing and sending “OK” costs the same amount as transmitting a long sentence—so it's to your advantage to keep your conversations brief and the number of messages you send to a minimum. (The exception to this rule is Sprint, which includes unlimited AIM, MSN, and Yahoo instant messages for Vision subscribers.)

Using your camera-enabled cell phone to send pictures is even more expensive: Cingular and Verizon both charge 25 cents per picture message sent or received (plus data charges if you're not on an all-you-can-eat plan). With Sprint, if you don't have a Power

Vision plan, you must pay \$5 a month for access to its Picture Mail service, plus 2 cents per KB for each photo you upload. Consequently, sending a typical 50KB image would cost \$1 on top of the \$5 fee.



That's a lot more than the U.S. Postal Service charges for a picture postcard.

In fairness, your photo will get where it's going much faster, and the tempta-

tion to bombard friends with images probably isn't as strong as the urge to continue responding to text messages.

### HIGH TAB FOR TEXTING

WHAT'S INSIDIOUS ABOUT text messaging is the way it's being used to power services (and more income for carriers). *American Idol* voting is just the tip of the iceberg: PayPal, for example, now lets you initiate payments via text messaging.

SMS.ac, a popular teen community site, invites you to sign up for a dizzying variety of message services. You can receive messages from people who want to meet you based on the profile that you create when you sign up via the Web. You can get news alerts. You can arrange for calendar reminders. You can obtain photos. You pay SMS.ac only for the messages it sends you, but they cost up to 50 cents apiece, and the charges show up on your phone bill. If you become popular on the site, you could incur big charges without realizing it until your bill comes. And you have to send text messages to stop the messages—so you pay to stop paying.

### PRIVACY WATCH

## Protect Yourself With an Antiphishing Toolbar



THINK YOU CAN spot a phishing site? Don't be too sure. A recent study determined that a well-constructed fake Bank of the West page fooled 90 percent of the study's participants, including some very technically sophisticated people. Fortunately, several tools can help ensure that you don't fall for such a con.

A number of companies make free browser plug-ins that can detect phishing sites. Most give you a visual warning when you're on a site that's trying to pass itself off as something it's not. Some assemble a list of fake sites based on reports from users who've stumbled upon them. Others analyze the site's address to see if it's misleading: For instance, the URL might have “ebay” in it when it's not actually a part of ebay.com. Several toolbars use a combination of approaches.

The Netcraft toolbar ([find.pcworld.com/53176](http://find.pcworld.com/53176)) is my favorite. It shows you who the site is registered to, and provides a “risk rating” that can help you quickly decide whether you want to enter your password. A close second comes from TrustWatch ([www.trustwatch.com](http://www.trustwatch.com)), which makes a toolbar for Internet Explorer that validates legitimate Web sites and, like Netcraft,

can provide a detailed site report. TrustWatch's reports let you know whether the site is included on any blacklists of suspect sites and whether it uses SSL technology for secure transfers. TrustWatch also makes an extension for Firefox that embeds site-report links in Google search-result pages.

Other good options abound. The EarthLink Toolbar with ScamBlocker ([find.pcworld.com/53178](http://find.pcworld.com/53178)) alerts you with a pop-up message when you visit a site that has hosted phishing attacks. (You don't need to be an EarthLink subscriber to use the tool.) Corestreet's SpoofStick ([find.pcworld.com/53180](http://find.pcworld.com/53180)) helps clue you in to a phishing site by putting the domain name of the site that you're visiting in huge, bold letters in IE's toolbar. Cloudmark's IE Toolbar ([find.pcworld.com/53182](http://find.pcworld.com/53182)) automatically blocks sites known to host phishing scams. And eBay offers a toolbar ([find.pcworld.com/53184](http://find.pcworld.com/53184)) equipped with an Account Guard feature that warns you if you're about to enter your eBay or PayPal password in a fake Web site's log-in page.

The phishing study cited above, however, found that a quarter of participants didn't look at phishing clues already present in browsers, like the padlock icon and address bar. These days it doesn't pay to be asleep at the wheel as you cruise the Net.

—Andrew Brandt

## Sketchy Support for BitDefender Buyer



IN AUGUST 2005, I purchased the antivirus application BitDefender as a one-year subscription (it earned a Best Buy in your March 2006 roundup). Six months later I started receiving warnings that my subscription had expired. I called the customer service number and was told to uninstall and then reload the software. The warning still appeared. I sent two e-mail messages describing my problem but got no answers. Four more phone calls to tech support led to a recording each time. I have received neither responses to my e-mail nor any returned phone calls. Currently I have no antivirus protection on my laptop.

William Kelly

Lower Gwynedd, Pennsylvania

**On Your Side responds:** This wasn't the only letter we received alerting us to BitDefender's slow response time, which may be due in part to the fact that the vendor is based in Romania. In the United States, BitDefender has only two tech support people, but the company says that it is expanding its U.S. staff and adding an 800 number. If the U.S. lines are busy, calls will be redirected to English-speaking tech support representatives in Romania. In the meantime, BitDefender recommends accessing its live chat for technical support. Kelly did get his problem fixed over the phone, ten days after his original call; the company extended his subscription to compensate him for the delay.

—Amber Bouman

SMS.ac is clearly mindful of the potential for overenthusiastic customers to rack up big bills. Among other things, it published a Mobile Consumer Bill of Rights on its Web site, which includes a clause stating that "mobile consumers have the right to know exact costs for all products and services prior to purchase." But the fact remains that you don't always have all this information at your fingertips when you're on your handset.

### SUBSCRIPTION FEES

SUBSCRIPTION SERVICES ARE another source of swollen monthly cell phone bills. Amp'd Mobile, the teen-oriented cell phone service, now offers its customers the ability to buy movie tickets from their cell phones—after they sign up for a \$2-a-month subscription. But you'll still pay the usual convenience fee for buying tickets online. Do you really want to pay \$24 a year just to use a feature that's widely available on an Internet-connected PC?

Most real-time navigation services catering to GPS-enabled cell phones will also be available exclusively via subscription, with monthly fees in the vicinity of \$10. But downloading map and routing information may result in additional charges.

Your best defense as a smart cell phone

shopper: Ask carrier sales reps for pricing details that will help you determine the true costs of any services that interest you, and ask if there's any way to track your bandwidth and message usage between monthly bills. Cingular, for instance, shows data usage as well as voice usage on customers' account pages.

Look into alternative services and workarounds. For example, on many PDA-phone hybrids you can avoid instant messaging fees by using Intellisync Verichat, a universal IM client that circumvents messaging fees, at a cost of \$25 a year. And instead of downloading songs from a carrier's music service, get a phone equipped with a memory card slot so you can play tunes you've ripped on your PC.

Don't give your cell service easy access to your wallet. Say pooh to ARPU. ■

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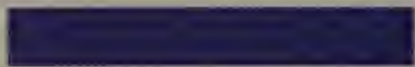
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STEVE BASS

## Get Relief From Annoying E-Mail

**Avoid large file attachments; protect yourself from spam and dopey messages.**

DO ASSOCIATES E-MAIL you humongous attachments? Do dopey friends not know how to blind-copy e-mail to protect your privacy? I have a few ways for you to be less annoyed—and less annoying.

**The Hassle:** *Don't laugh, but I'm still on dial-up (I live out in the sticks and can't get broadband). I've asked my friends not to send file attachments the size of the Poseidon, but they often forget. Other than getting new friends, do you have a solution?*

**The Fix:** When I travel and stay in motels that offer only dial-up (my wife calls me cheap; I think I'm thrifty), I skip gargantuan downloads. It takes just a few minutes to change the settings in your e-mail program. In Outlook Express, create a rule: Select **Tools•Message Rules•Mail•Modify**, and then scroll through the conditions and check *Where the message size is more than size*. In the 'Select actions for your rule' menu, scroll to and check *Do not Download it from the server*. (Unfortunately, you'll never know that the person sent you an e-mail.) In the Rule Description box, click the *size* link, set the maximum allowed message size, and click OK twice. I set mine at 1000KB (about 1MB).

### TOOL OF THE MONTH

## Welcome-Screen, Incoming E-Mail Fixes

WINDOWS XP'S WELCOME screen may insist that you have unread messages even when you don't. That's because the screen is updated if you use Hotmail, Outlook, or Outlook Express (even if you use another e-mail app). To stop this alert from appearing, use TweakUI ([find.pcworld.com/52726](http://find.pcworld.com/52726)); Expand Logon, and uncheck *Show unread mail on Welcome screen*. This won't work if your

In Outlook 2003, choose **Tools•**

**Options**, select the *Mail Setup* tab, click *Send/Receive•*

**Edit**, and check *Down-*

**load complete item in-**

**cluding attachments**

**and Download**

**only headers for**

**items larger than**

**xx KB (where xx is**

**a number you pick**

**from a drop-down**

**menu). Be sure to**

**check the box next**

**to Receive mail items.**

**The Hassle:** *I e-mail a message to a bunch of friends, and they complain that the list of addresses is longer than the actual note. What's the deal with my e-mail messages?*

**The Fix:** I'll bet you're adding e-mail addresses to the To: field—and broadcasting everyone's address in your e-mail. Instead, maintain everyone's anonymity by using your e-mail's blind-copy feature. Finding it can be tricky, however. In Outlook Express, select **View** and check **All Headers**. In Outlook, choose **View** and

check *Bcc Field*. In Netscape, click the *To* field and scroll to *Bcc*. In

Yahoo Mail, click *BCC*. The easiest are AOL.com, Eudo-

ra, and MSN Hotmail—

just fill the 'bcc' field.

The classic AOL on-

line service is more

work: In the Copy

To box, enter each

recipient's e-mail ad-

dress in parentheses.

There's a downside to

blind-copied addresses:

Some ISPs matter-of-

factly bounce them. But I

have a workaround. In-

stead of using e-mail, I send

batches of messages (as many

as 2400 at a time) on one or the

other of two free Web services—Yahoo

Groups ([find.pcworld.com/52854](http://find.pcworld.com/52854)) or

Topica ([find.pcworld.com/52856](http://find.pcworld.com/52856)).

**Quick tip:** You can make it easier for friends and family to filter your e-mail messages by including a phrase like "Geeky Buddies" or "Today's Joke" in the To: field. It's easy to do and it may work with your e-mail program. Experiment by typing **(Special Friends)** in the To: field. Then fill in the blind-copy fields using the steps outlined above in the discussion about sending smart with BCCs. For a blank To: line, enter an open parenthesis, a space, and a close parenthesis (in some e-mail programs, such as AOL and Hotmail, use just a space). ■

Contributing Editor Steve Bass writes the Bass Blog ([find.pcworld.com/50264](http://find.pcworld.com/50264)). To read his previous columns and newsletters, go to [find.pcworld.com/50268](http://find.pcworld.com/50268). Contact him at [hasslefreepc@pcworld.com](mailto:hasslefreepc@pcworld.com).



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## One Remote to Rule Them All

Can one gizmo control every device in the house? The possibilities are remote.

SOME MEN DREAM of winning the lottery or running off to Fiji with Keira Knightley. I dream of having a single remote to control every TV set, DVD player, and stereo system in my house. I'd wear it in a holster on my hip and sleep with it under my pillow. Best of all, I'd take the cluster of remotes occupying my coffee table and toss them into the largest landfill I could find.

There are two kinds of universal remotes: the ones included with custom-installed home theaters that somebody else programs for you, and the programmable ones that you can buy at Electronics R Us for a couple hundred dollars. Since I haven't won the lottery (yet), I looked at low-end to mid-range controllers from Philips, Logitech, and Universal Remote.

Besides controlling each device, these babies allow you to create macros so you can press one button to turn on your television, launch your DVD player, and switch your A/V receiver over to surround-sound mode. Sounds dreamy, doesn't it? Unfortunately, my dreams started to crumble when I put the remotes to the test.

### POLISHED PHILIPS

CERTAINLY THE SLICKEST looking of the three, Philips's SRU9600 (\$150, [www.philipsusa.com](http://www.philipsusa.com)) has a 1.5-by-3-inch touchscreen LCD that changes depending on the device you control. To program it, you pick the type of device, use a click-dial to scroll through a looong list of manufacturers, and hold down OK while the remote finds the codes. Programming it to automatically perform all of the functions to, say, play a DVD or a CD is as easy as

recording a keyboard macro on a PC.

In most cases the SRU9600 worked fine, but I had to manually train it to work with my Magnavox DVD/VCR player by putting it nose-to-nose with my old remote and alternately pressing buttons on each device. Finding the up, down, and



side directional buttons essential to navigating TiVo also took me a while. Even so, the SRU9600 was easily my favorite.

### IMPERFECT HARMONY

TO PROGRAM LOGITECH's Harmony 550 (\$150, [www.logitech.com](http://www.logitech.com)), you connect it to your PC's USB port. Logitech's Web-based software prompts you for type of device, maker, and model, and then downloads the right codes to the remote.

The 550 controlled most of my devices without a hassle but seemed totally flummoxed by my Sony CD Jukebox. Worse, the remote's LCD is only about an inch square, so you have to scroll through multiple screens (22 of them for my Pioneer A/V receiver) and puzzle out cryptic

commands like 'MoveSur+' (though you can use the software on the PC to change the names of the commands).

The software has its own problems. For example, when you're programming activities like 'Watch a DVD', it's easy to get stuck in an endless loop. And if you aren't careful, the Harmony CD installs nagware that pops up plugs for other Logitech products. To its credit, Logitech offers free phone support, with native English speakers and minimal hold times. The bad news is, you'll probably need it.

### UNIVERSAL LIFE

ANY GIZMO THAT comes with a nearly 1-hour instructional DVD doesn't inspire much confidence. And while the disc for Universal's R7 ([www.universalremote.com](http://www.universalremote.com)) does a good job of explaining the remote's intricacies, you'll need a number 2 pencil, a notepad, and more patience than I could muster

to get things working. The R7 has cool features the others don't—like the ability to control sound for all devices without switching between them, and the ability to turn everything off with one button—and at \$50 it's certainly priced right. But be prepared for a lot of trial and error, and multiple training-DVD viewings.

Of the three, the Philips offers the greatest control with the least amount of hassle. But I would keep the other remotes in a drawer nearby, just in case. And, Keira? I'm ready to leave whenever you are. ■

*Contributing Editor Dan Tynan is the author of Computer Privacy Annoyances (O'Reilly Media, 2005). You can send him e-mail at [gadgetfreak@pcworld.com](mailto:gadgetfreak@pcworld.com).*

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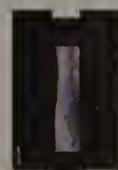
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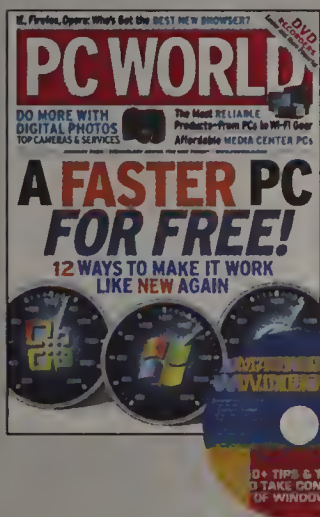
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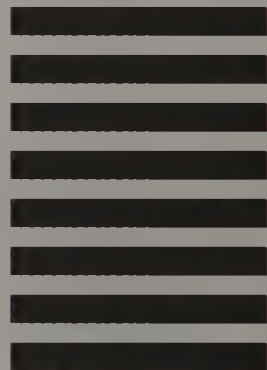
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STUART J. JOHNSTON

## Critical Microsoft Patches Cause Havoc

**Also: Take charge of Automatic Updates, and get critical Firefox fixes.**

**HEALER, HEAL THYSELF:** This month three Microsoft security fixes ended up causing a lot of folks serious problems with Internet Explorer, Office, and Outlook Express.

A recent patch for Windows Explorer, distributed via Windows Update, essentially rendered Office unusable for many people, preventing them from opening or saving files. For others, IE's address bar refused to accept manually entered URLs.

The trouble mainly affected users who have the HP Share-to-Web program, which is no longer distributed. It came with HP PhotoSmart software,

any HP DeskJet printer with a card reader, and HP scanners; some HP cameras and optical drives also bundled the soft-



**Three fixes create serious problems.**

ware. And certain PCs running older nVidia graphics cards had problems as well.

Microsoft has issued a new

patch via Windows Update ([find.pcworld.com/53462](http://find.pcworld.com/53462)). If you have Automatic Updates enabled, it will automatically determine if you need the "patched" patch. (See the tips below for more on configuring Automatic Updates.)

Meanwhile, a patch for IE plugged eight critical holes in the browser but also altered IE's behavior in response to an ongoing patent lawsuit brought by a California university. The update adjusts the way IE handles commonly used ActiveX controls, particularly for plug-ins such as the Macromedia Flash Player.

For the browser change to work correctly, Web sites have to make corresponding changes. Otherwise, every ActiveX control on a site requires an extra click to activate.

Microsoft has been trying to get the word out to Web site managers, but of course many of the millions of sites out there didn't get updated. And users, who received little notice about the change, were caught off guard when many sites suddenly seemed broken.

Microsoft released a temporary workaround that undoes the ActiveX control patch while leaving the security update intact. The fix is due to be phased out soon because of the continuing patent battle, but for now you can get it at [find.pcworld.com/53464](http://find.pcworld.com/53464).

### IN BRIEF

#### Firefox Plugs Holes

MOZILLA.ORG has patched a half dozen critical security flaws in its Firefox browser. Versions 1.5.0.2 and newer or 1.0.8 and newer will protect you. You can download the latest version of Firefox at [www.getfirefox.com](http://www.getfirefox.com). For more info on the bugs, go to [find.pcworld.com/53472](http://find.pcworld.com/53472).

As if those bugs weren't enough, users have reported that their Outlook Express 6 address book vanished after they installed a Microsoft security patch ([find.pcworld.com/53466](http://find.pcworld.com/53466)) for that program.

Microsoft has said only that it is looking into the problem. Users on the company's forum say they were able to retrieve their address books by uninstalling the patch. Luckily, the bug it fixes isn't critical, so removing the patch seems to be an acceptable way to get OE's address book working again. ■

*Stuart J. Johnston is a contributing editor for PC World. Visit [find.pcworld.com/31580](http://find.pcworld.com/31580) to see more Bugs and Fixes columns.*

### BUGGED?

FOUND A HARDWARE or software bug? Send us an e-mail on it to [bugs@pcworld.com](mailto:bugs@pcworld.com).

### AVOID PATCH CRASH: TIPS FOR STAYING SAFE

DON'T LET BUGGY patches goad you into disabling Automatic Updates. Instead, take charge with these steps.

**1 INSTALL AT YOUR COMMAND** Set Windows Update to automatically download patches, but to install them only when you say so. Open the Control Panel, choose *System*, and then click the *Automatic Updates* tab. Select *Download updates for me, but let me choose when to install them*, and click *OK*.

**2 CHECK FOR PROBLEMS** When you're prompted to install patches, select *Custom Install (Advanced)* to see a short description of each patch, as well as its Microsoft Knowledge Base (KB) number. Use that KB number to search for any reported problems at Microsoft's Security Response Center Blog ([find.pcworld.com/53474](http://find.pcworld.com/53474)) or the company's Windows Update security newsgroup ([find.pcworld.com/53468](http://find.pcworld.com/53468)).

**3 PREP A ROLLBACK** Set a restore point before installing patches so you can always revert to a working configuration. You can also remove most patches via the Windows Add/Remove Programs utility, which lists the date and KB number for each installed patch as long as you check the *Show Updates* box up top. Remove critical patches only as a last resort.

# Low-Cost, High-Performance Peace of Mind

**Grisoft's AVG Anti-Virus solution delivers what users want**

**W**hether it is a small business or an enterprise-class organization, customers want the same things from their anti-virus solution. With damage due to viruses, worms, and other pests topping \$50 billion per year by some estimates, users want the solution to work with lethal precision. And they want the solution to be easy to install, easy to update, and easy on the wallet.

Customers in business of all sizes get that and more with AVG Anti-Virus from Grisoft ([www.grisoft.com](http://www.grisoft.com)). "I get a lot of infected emails, but this software has caught it all," says David Inman, Technology Committee, AARP Tax-Aide. "No viruses have gotten through since I've been using AVG Anti-Virus. I really like it."

AVG Anti-Virus is available in versions tailored to support personal computers, SOHO environments of up to

five computers, and networks of any size; the network edition includes a tool for central administration. But no matter what version is needed, all users get the same value-laden package of benefits with AVG Anti-Virus, which has received numerous independent awards. These benefits and features include:

- Small update file size
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- Highly competitive pricing, as low as \$109 to protect five computers for two years
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- Industry-leading rapid response to new viruses to stay a step ahead of the villains



**The AVG Anti-Virus product line supports all major operating systems and platforms.**

- The peace of mind knowing your anti-virus solution has been developed by a company that has been a leader in PC security for 15 years
- To learn more about AVG Anti-Virus as well as the company's other security solutions, or to discover how to become an AVG reseller, go to [www.grisoft.com](http://www.grisoft.com).

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## Data Recovery Made Easier

**R-Studio 3.0 from R-Tools raises the bar on information restoration.**

**P**roving that a good thing can get even better, R-Tools Technology Inc. has released version 3.0 of R-Studio, its family of robust and economical undelete and data recovery software.

Already renowned for its ability to recover mission-critical data lost

to viruses, malicious attacks, hardware failures, or operating system crashes, R-Studio 3.0 has a new file recovery algorithm allowing users to increase the quality of file recovery and recover files not recognized in file system metadata.

In addition, R-Studio 3.0 now supports UFS1 and UFS2 file systems as well as enhanced remote host scanning

procedures that analyze data on the remote host rather than the local host, speeding up data recovery time. R-Studio 3.0 also includes R-Studio Emergency version free of charge, allowing users to recover data on a computer on which Windows cannot be booted due to system file corruption or deletion. And to make things even more user-friendly, R-Studio and R-Studio Emergency demo versions can be registered on-the-fly.

R-Studio 3.0 joins the growing list of business continuity solutions from R-Tools that includes R-Drive Image 3.0, a powerful utility that effortlessly creates disk image files for backup and duplication. These files are exact copies of a drive partition and are created without interrupting normal business operations.

**SPONSORED BY:**  
R-Tools Technology Inc.  
[www.r-tt.com](http://www.r-tt.com)

R-Drive Image 3.0 can also be utilized for mass system deployments when

configuring multiple computers identically.

In addition, R-Tools offers R-Word to recover damaged Microsoft Word files; R-Excel to reconstruct precious Excel files that have been corrupted or attacked; R-Mail to reconstitute email messages accidentally deleted or damaged .dbx files; and R-Wipe & Clean that automatically keeps disks free and clear of data clutter.

For information on the exciting new features in R-Studio 3.0 or to learn more about how the family of R-Tools solutions can keep your business up and running, visit [www.r-tt.com](http://www.r-tt.com).



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# REVIEWS & RANKINGS

EDITED BY DANNY ALLEN AND LAURA BLACKWELL

- 57 SAMSUNG Q1, TABLETKIOSK EO
- 60 ULEAD DVD MOVIEFACTORY 5
- 60 TOSHIBA SATELLITE P105-S921
- 61 MAXENT MX-50X3, SAMSUNG HP-S5053, VIZIO P50 HDM
- 64 SEAGATE BARRACUDA 7200.10 750GB

## Small Players, Big Sound

We test the audio quality and evaluate the usability of flash players, and pick a Best Buy.

### AUDIO PLAYERS

**TEST Center** PORTABLE AUDIO players may offer eye-catching features, such as the ability to display photos and video clips, but ultimately the devices must be judged by one thing: How good does the music sound?

For the first time, the PC World Test Center has conducted sound-quality tests on audio players to determine which produce the finest sound. For details about these tests, see the audio players section of "How We Test" at [find.pcworld.com/53160](http://find.pcworld.com/53160).

Lightweight audio players with flash-based memory are the best choice for listening to music while at the gym or on the go. Their lack of moving parts makes them less vulnerable to drops than hard-drive-

based devices are. And if you don't require that your audio player hold your entire music collection (or if you already have a bulky player that stores it all), one of these small flash players makes the perfect traveling companion. In addition, though their capacities are dwarfed by 60GB hard-drive models, flash players have increased their storage space. A 4GB flash player will hold about 1000 MP3s encoded at 128 kilobits per second.

If you want an armband for listening on the move, however, note that Creative's Zen Nano Plus has one, but the iPod Nano's costs \$29 extra.

Flash players come in a mix of shapes and sizes—variables that can impact their usability. There is such a thing as too small. Some of the players we



CREATIVE'S LOW-PRICED ZEN Nano Plus matches the high audio quality of the pricier iPod Nano. Dell's DJ Ditty costs just \$89.

evaluated are about the size of a cigarette lighter (too small and narrow to include a thumb wheel). On the other hand, some rectangular models have room for a larger screen, making navigating their menus easier. The lightest player we tested is the 2GB MobiBlu DAH-1500i (also known as the "Cube"). The unit weighs less than an

ounce and is so small you could pop it in your mouth. Despite this novelty, it missed the chart due to its lack of features and mediocre usability.

### NEW AUDIO TESTS

BEGINNING WITH THIS issue, the PC World Test Center will evaluate the sound quality of audio players using an ATS-2 analyzer provided

68 SAGE PEACHTREE PREMIUM 2007  
 70 MOVIEBEAM PLAYER  
 70 SONY NAV-U NV-U70  
 72 CMS BOUNCEBACK PROFESSIONAL 7.0,  
 NTI SHADOW 3,  
 STARDOCK KEEPSAFE  
 74 EMACHINES T6532  
 76 PANASONIC VDR-D300  
 78 MORE REVIEWS  
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58 TOP 10 NOTEBOOK PCs  
 62 TOP 10 MULTIFUNCTION INKJETS  
 67 TOP 5 NETWORK-ATTACHED DRIVES



76



60

by Audio Precision, a maker of audio testing equipment. We conducted several tests on each player. For example, we measured the output level each device could attain before reaching 1 percent distortion, generally regarded as the highest acceptable amount.

We also measured each device's frequency response to

ensure that the player could reproduce very high and very low frequencies. All of the players we evaluated earned high scores on this test. We also measured the signal-to-noise ratio and the harmonic distortion of each player's audio output; obviously, noise or distortion will make your listening less enjoyable.

Our tests measure the audio output from each player's headphone jack, rather than from the included earbuds. To get the best possible sound quality, you'll want to upgrade from the basic earbuds that come with these players. We outline some of your headphone options in "First Things First: Ditch the

Earbuds" on page 54. We were particularly unimpressed with the Creative Zen Nano Plus's earbuds, which is a shame because the player's audio quality is top-notch.

Only the Zen Nano Plus and the iPod Nano received a score of Superior for overall audio quality. That and a low price earned the Zen Nano Plus our Best Buy. However, no other player tops the elegant design of the iPod Nano.

Of the players on the chart, the SanDisk Sansa c150 added the most distortion to audio, and the SanDisk Sansa e260 posted the highest signal-to-noise ratio. Two players, the Creative Zen Nano Plus and the Dell DJ Ditty, tied for creating the least distortion.

If you like to crank up the tunes, the iPod Nano is your best bet: In our tests it generated the loudest signal before reaching 1 percent distortion. It also showed the best frequency response, re-creating frequencies across the spectrum with less variance than the other players did. The iPod Nano's sole shortcoming was its average showing in our measurement of cross talk—the blending of the left and right audio channels, ►

|                                                                                                                                                     | FLASH-BASED PLAYER                                                               | PCW Rating             | Performance                                                                                                                                                | Features and specifications                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                                                                                   | <b>Creative Zen Nano Plus</b><br><b>Best Buy</b> \$109<br>find.pcworld.com/53170 | <b>83</b><br>Very Good | <ul style="list-style-type: none"> <li>Overall audio quality: Superior</li> <li>Signal-to-noise ratio: -81db</li> <li>Overall design: Good</li> </ul>      | <ul style="list-style-type: none"> <li>1GB</li> <li>Windows Media Player software</li> <li>FM tuner, voice recording</li> <li>1.2 ounces</li> </ul>                          |
| ► <b>Bottom line:</b> Top-of-the-line player offers audio quality for a low price. Includes an armband and so-so earbuds. Uses one AAA battery.     |                                                                                  |                        |                                                                                                                                                            |                                                                                                                                                                              |
| 2                                                                                                                                                   | <b>Apple iPod Nano</b><br>\$249<br>find.pcworld.com/53174                        | <b>76</b><br>Good      | <ul style="list-style-type: none"> <li>Overall audio quality: Superior</li> <li>Signal-to-noise ratio: -82db</li> <li>Overall design: Very Good</li> </ul> | <ul style="list-style-type: none"> <li>4GB</li> <li>iTunes software</li> <li>Photo</li> <li>1.6 ounces</li> </ul>                                                            |
| ► <b>Bottom line:</b> This elegant model has high audio quality and native photo support, but it's pricey and limits you to the iTunes Music Store. |                                                                                  |                        |                                                                                                                                                            |                                                                                                                                                                              |
| 3                                                                                                                                                   | <b>Dell DJ Ditty</b><br>\$89<br>find.pcworld.com/53168                           | <b>76</b><br>Good      | <ul style="list-style-type: none"> <li>Overall audio quality: Very Good</li> <li>Signal-to-noise ratio: -79db</li> <li>Overall design: Fair</li> </ul>     | <ul style="list-style-type: none"> <li>512MB</li> <li>Musicmatch software</li> <li>FM tuner</li> <li>1.3 ounces</li> </ul>                                                   |
| ► <b>Bottom line:</b> Inexpensive, low-capacity player has an FM tuner, but doesn't record broadcasts or have a built-in microphone.                |                                                                                  |                        |                                                                                                                                                            |                                                                                                                                                                              |
| 4                                                                                                                                                   | <b>SanDisk Sansa c150</b><br>\$149<br>find.pcworld.com/53164                     | <b>75</b><br>Good      | <ul style="list-style-type: none"> <li>Overall audio quality: Very Good</li> <li>Signal-to-noise ratio: -80db</li> <li>Overall design: Fair</li> </ul>     | <ul style="list-style-type: none"> <li>2GB</li> <li>Rhapsody, Sansa Media Converter software</li> <li>FM tuner, voice recording, photo</li> <li>1.6 ounces</li> </ul>        |
| ► <b>Bottom line:</b> Button use and menus are a bit clunky on the inexpensive c150. Photos require software conversion. Uses one AAA battery.      |                                                                                  |                        |                                                                                                                                                            |                                                                                                                                                                              |
| 5                                                                                                                                                   | <b>SanDisk Sansa e260</b><br>\$229<br>find.pcworld.com/53188                     | <b>72</b><br>Good      | <ul style="list-style-type: none"> <li>Overall audio quality: Good</li> <li>Signal-to-noise ratio: -74db</li> <li>Overall design: Fair</li> </ul>          | <ul style="list-style-type: none"> <li>4GB</li> <li>Rhapsody, Sansa Media Converter software</li> <li>FM tuner, voice recording, photo, video</li> <li>2.7 ounces</li> </ul> |
| ► <b>Bottom line:</b> Unit has a thumb wheel and a big 1.8-inch screen, but navigation can be unintuitive. Rechargeable battery is replaceable.     |                                                                                  |                        |                                                                                                                                                            |                                                                                                                                                                              |

**CHART NOTE:** Ratings are as of 5/5/06. Lower signal-to-noise ratios are better (the iPod Nano scored the best on this test). For details on how we test audio players, see find.pcworld.com/53160.

which degrades the stereo image. The Creative Zen Nano Plus got the best score on this test.

## FM AND RECORDING

ALL THE PLAYERS we tested, except the iPod Nano, include an FM tuner. Three—the Creative Zen Nano Plus, as well as the SanDisk c150 and e260 players—can record FM broadcasts. Don't expect the tuners in these small players to get the crisp reception you get from your car stereo or to make pristine recordings of radio shows, however; recordings we made with the SanDisk e260 had more static than the original broadcast.

Most players typically store 20 radio station presets. The Creative Zen Nano Plus can store 32 presets, while the Dell DJ Ditty allows you to store just 10. As for equalizer settings, the iPod Nano offers the most, with 22 EQ presets.

## EARPHONES

# First Things First: Ditch the Earbuds

THE EARPHONES THAT come packed with audio players don't do the music justice. To hear the high-quality sound of a Creative Zen Nano Plus or an iPod Nano, you need better headphones. Here are a few options—one for as low as \$8.

### Over-the-ear headphones:

Bulky headphones aren't as portable as earbuds. But on the plus side, a set of cans tends to block out noisy disruptions. Those with closed cups that surround the ears will shut out more noise than those with smaller cups or only foam earpieces. One good pick is a former *PC World* Best Buy, the \$150 Bose Tri-Port headphones ([find.pcworld.com/48020](http://find.pcworld.com/48020)).



phones from Ultimate Ears ([find.pcworld.com/53560](http://find.pcworld.com/53560)) have tips designed to fit snugly, as do the \$500 Shure E500 Push to Hear earbuds ([find.pcworld.com/53562](http://find.pcworld.com/53562)), which at press time were expected to ship in mid-June. If these are too pricey, don't despair. We've also been impressed by the \$8 Sennheiser MX 300 earbuds ([find.pcworld.com/53498](http://find.pcworld.com/53498)).

If you prefer something smaller, try the \$150 Sennheiser PXC250 set ([find.pcworld.com/48024](http://find.pcworld.com/48024)), which includes a noise-cancelling feature.

**In-the-ear headphones:** Standard earbuds are lousy at blocking out sound. However, the \$249 Super.fi 5 Pro ear-



**SANDISK'S SANSa E260 (left) earned the lowest audio quality score; the c150 fared better.**

Aside from the Dell DJ Ditty, which has no EQ presets, the other players we looked at offer between 4 and 8 settings. In our experience, however, using an audio player's EQ lowers the output level and distorts the signal.

A built-in microphone is handy for recording voice memos. Among the models we tested, only the iPod Nano and Dell DJ Ditty lacked a mike. One convenient feature

of the Creative Zen Nano Plus is that in addition to its built-in mike, it has a line-in jack you can use to record from, say, a portable CD player.

## BATTERIES

SOME FLASH PLAYERS use batteries that you can replace yourself. The Zen Nano Plus and SanDisk Sansa c150 use one AAA battery. Both the SanDisk Sansa e260 and iPod Nano run on a rechargeable lithium ion battery; you can change the Sansa e260's battery yourself, but not the iPod Nano's, nor the lithium polymer battery in the Dell DJ Ditty.

All of the players on the chart are rated to last at least 14 hours on one charge.

## SHOPPING FOR TUNES

THE IPOD NANO is the only player here that doesn't allow you to drag and drop music files onto it using Windows Explorer—you're required to

use Apple's iTunes software.

Most of the players on the chart support the Rhapsody, Napster, and Yahoo online music stores. With the iPod Nano, you have to shop at Apple's iTunes Music Store.

Support for music subscription services is a slightly different story. All of the players except the iPod Nano carry Microsoft's PlaysForSure logo. But be aware that the Creative Zen Nano Plus supports only downloads under the system, and not subscription services as the other three players do. A list of compatible devices is available at [www.playsforsure.com](http://www.playsforsure.com).

## PHOTOS, TOO

A FEW OF the players can display photos on their color screen. The iPod Nano's 1.5-inch screen and the SanDisk e260's 1.8-inch screen are big enough to make photo viewing fun (in theory anyway).

However, you can't drag and drop photos onto either player. To view photos on the iPod Nano you have to use iTunes, and with the Sansa e260 you must use its Media Converter software; the same goes for playing video (the Sansa e260 is the only player here that does so). In practice, the e260's large screen is wasted real estate: Photos we loaded left about half of the screen blank, and the PDF manual offered no help. On the Sansa c150's 1.2-inch color screen, photos displayed smaller than a postage stamp.

Such multimedia features are merely extras on flash-based players, though. What these devices do best is play music. So choose one, and get out and enjoy yourself!

—Eric Butterfield

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# Head-to-Head: First Ultra Mobile PCs Arrive

## MOBILE COMPUTING

THE FIRST SYSTEMS based on the Microsoft/Intel Ultra Mobile PC specification—Samsung's **Q1** and Tablet-Kiosk's **EO**—prove you can cram an awful lot into a small package. Both devices condense the best features of a tablet PC into a package that's less than half the size and weight of a typical laptop.

Notably missing, however, is the \$500 to \$1000 price that Microsoft and Intel had promised for UMPCs. My 512MB configuration of the shipping Q1 sells for \$1099, and the shipping 1GB EO system I tested sells for \$1164 (Tablet-Kiosk also sells an \$899 model with only 256MB of memory). Those prices don't include critical options like an external optical drive, a keyboard, or an extra battery pack.

## NOTEBOOK REPLACEMENT?

EVEN AT THOSE steep prices, I think that people who prefer writing by hand to keying, and anybody who likes using a stylus instead of a mouse, may find these products a viable alternative. Of the two systems, I give the edge to the Q1, which offers more connectivity options and support for portrait view.

Previously called Origami,



**NEW ULTRA MOBILE PCs from TabletKiosk (left) and Samsung each include a 7-inch LCD, a 40GB hard drive, and Microsoft's Windows XP Tablet Edition operating system.**

the UMPC spec combines a touch screen with a tablet's pen input. The two devices I looked at are about the same size and weight: 9 by 5.5 by 1.25 inches deep, and just under 2 pounds. If the units were red, you would think they were Etch-A-Sketches with a few extra buttons.

Each tablet has two powered USB ports, and each has a 7-inch LCD and a 1.8-inch 40GB hard drive. Both systems run Windows XP Tablet PC Edition with Touch Pack (designed specifically for the UMPC's touch screen).

Other common features: built-in 802.11b/g and Bluetooth for connecting to wireless networks, plus screen resolutions of 800 by 480 (the default on both), 800 by 600, and 1024 by 600. In addition,

you can connect to a second monitor with either machine, which lets you extend your desktop, use the external display alone, or show the same screen content on both displays (for presentations).

Unfortunately, each device's cramped screen real estate makes navigation difficult. At the default 800-by-480 resolution, many open windows were truncated, and dialog boxes often opened outside of the viewable area, requiring some "guess" clicks. At higher resolutions, the problem was even more noticeable.

Neither system includes a standard attachable optical disk drive—which I found ironic, since both ship with restore CDs. Another early upgrade will likely be an additional battery pack. Using each unit's standard battery, the Q1 ran for only 1.75 hours on a single charge and the EO lasted about 2.25 hours. Of the two models, the Q1 packs in more useful features than the EO, such as an ethernet port and a VGA connection for linking to an external monitor. The Q1 also comes

with a microphone and two speakers built into its case (the EO includes a set of earbud headphones with a handy built-in microphone).

## NOTES INTO TYPE

BOTH MACHINES PROVIDE the Windows Journal app, for taking handwritten notes and converting them into type. The program did a surprisingly good job translating my cursive and printed scribbles into something approximating English (the TabletKiosk also includes Windows Journal). For a longtime note-taker like me, this is the feature that will make or break a UMPC.

Though these devices are usually oriented in landscape mode, the Q1 also has a portrait mode, which I found more natural when taking notes with Windows Journal and the included stylus.

If these devices were to cost less, either one could be the portable PC I've longed for. Both can replace a laptop, if you can live with an overcrowded screen and a few costly but necessary add-ons.

—Dennis O'Reilly

### Q1

Samsung

PCW Rating **70 Good**

This promising UMPC packs plenty of features and excels as a note-taking device, but the necessary extras push up the price.

Street: \$1099

[find.pcworld.com/53564](http://find.pcworld.com/53564)

### EO

TabletKiosk

PCW Rating **65 Fair**

The EO demonstrates the promise of the UMPC design but lacks necessary features such as an optical drive and a keyboard.

Street: \$1164

[find.pcworld.com/53566](http://find.pcworld.com/53566)

## TOP 10 NOTEBOOK PCs

## Dell, Lenovo Laptops Take Over Top Spots

**TEST Center** BOTH SECTIONS OF this month's notebook chart have new number ones. Among all-purpose laptops, Dell's spiffy Inspiron E1505 displaces the long-time leader, Lenovo's ThinkPad R52. The Lenovo ThinkPad X60s debuts in first place among our ultraportables, supplanting the venerable ThinkPad X41.

Dell's Inspiron E1505, a superb entertainment laptop, has a fine keyboard. The machine's MediaDirect button



**DELL'S INSPIRON E1505** takes your entertainment on the road.

offers fast access to your music, pictures, movies, and videos.

Toshiba's Tecra A6-S513 arrives on the all-purpose chart with both a fingerprint reader and a TPM (Trusted Platform Module) for security.

Lenovo's speedy ThinkPad X60s includes a tiptop keyboard. Its key-illuminating ThinkLight is one example of the X60s's great design.

—Dan Sommer

## ONLINE

FOR MORE INFORMATION about the notebook PCs reviewed in this chart, including details about how we tested them, go to [find.pcworld.com/53522](http://find.pcworld.com/53522).

| ALL-PURPOSE NOTEBOOK                                                                                                                          |                                                                                                                                 | PCW Rating      | Performance                                                                                                                                              | Features and specifications                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                                                                             | <b>Dell Inspiron E1505</b><br><b>Best Buy</b> \$1149 NEW<br><a href="http://find.pcworld.com/53124">find.pcworld.com/53124</a>  | 85<br>Very Good | <ul style="list-style-type: none"> <li>WorldBench 5 score: 82 Good</li> <li>Overall design: Good</li> <li>Tested battery life: 2:19</li> </ul>           | <ul style="list-style-type: none"> <li>1.66-GHz Core Duo T2300</li> <li>15.4-inch wide screen</li> <li>6.5 pounds</li> <li>DVD+R DL/DVD±RW</li> </ul>   |
| ▶ <b>Bottom line:</b> This inexpensive entertainment portable navigates easily between multimedia features, and offers terrific value.        |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 2                                                                                                                                             | <b>Lenovo ThinkPad R52</b><br>\$1149<br><a href="http://find.pcworld.com/4782B">find.pcworld.com/4782B</a>                      | 83<br>Very Good | <ul style="list-style-type: none"> <li>WorldBench 5 score: 77 Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 3:30</li> </ul>      | <ul style="list-style-type: none"> <li>1.73-GHz Pentium M 740</li> <li>14.1-inch screen</li> <li>6.1 pounds</li> <li>DVD-ROM/CD-RW</li> </ul>           |
| ▶ <b>Bottom line:</b> Lenovo's R52 has a comfortable keyboard, and its modular bay accepts many optional drives.                              |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 3                                                                                                                                             | <b>Toshiba Tecra A6-S513</b><br>\$1149 NEW<br><a href="http://find.pcworld.com/53130">find.pcworld.com/53130</a>                | 83<br>Very Good | <ul style="list-style-type: none"> <li>WorldBench 5 score: 77 Good</li> <li>Overall design: Good</li> <li>Tested battery life: 3:55</li> </ul>           | <ul style="list-style-type: none"> <li>1.66-GHz Core Solo T1300</li> <li>14.1-inch wide screen</li> <li>5.4 pounds</li> <li>DVD-ROM/CD-RW</li> </ul>    |
| ▶ <b>Bottom line:</b> Handsome business portable offers great battery life and extra security features, including a fingerprint reader.       |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 4                                                                                                                                             | <b>Micro Express FL3020</b><br>\$1199<br><a href="http://find.pcworld.com/50880">find.pcworld.com/50880</a>                     | 79<br>Good      | <ul style="list-style-type: none"> <li>WorldBench 5 score: 94 Superior</li> <li>Overall design: Fair</li> <li>Tested battery life: 2:03</li> </ul>       | <ul style="list-style-type: none"> <li>2-GHz Pentium M 760</li> <li>14.1-inch wide screen</li> <li>5.2 pounds</li> <li>DVD+R DL/DVD±RW</li> </ul>       |
| ▶ <b>Bottom line:</b> This average-priced notebook is an impressive performer and has a built-in Webcam, but its battery life is short.       |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 5                                                                                                                                             | <b>HP Compaq nx6125</b><br>\$1499<br><a href="http://find.pcworld.com/49660">find.pcworld.com/49660</a>                         | 77<br>Good      | <ul style="list-style-type: none"> <li>WorldBench 5 score: 81 Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 3:25</li> </ul>      | <ul style="list-style-type: none"> <li>2.2-GHz Turion 64 ML-40</li> <li>15.0-inch screen</li> <li>6.3 pounds</li> <li>DVD±RW</li> </ul>                 |
| ▶ <b>Bottom line:</b> Business model has a slightly dull screen but does everything else right. A six-in-one media-card reader sits up front. |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| ULTRAPORTABLE NOTEBOOK                                                                                                                        |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 1                                                                                                                                             | <b>Lenovo ThinkPad X60s</b><br><b>Best Buy</b> \$2299 NEW<br><a href="http://find.pcworld.com/52694">find.pcworld.com/52694</a> | 83<br>Very Good | <ul style="list-style-type: none"> <li>WorldBench 5 score: 83 Very Good</li> <li>Overall design: Very Good</li> <li>Tested battery life: 8:21</li> </ul> | <ul style="list-style-type: none"> <li>1.66-GHz Core Duo L2400</li> <li>12.1-inch screen</li> <li>3.5 pounds</li> <li>DVD-ROM/CD-RW</li> </ul>          |
| ▶ <b>Bottom line:</b> Strong performance, terrific battery life, and an illuminated keyboard make this expensive business notebook a winner.  |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 2                                                                                                                                             | <b>Acer TravelMate 3000</b><br>\$1199<br><a href="http://find.pcworld.com/48906">find.pcworld.com/48906</a>                     | 76<br>Good      | <ul style="list-style-type: none"> <li>WorldBench 5 score: 78 Good</li> <li>Overall design: Good</li> <li>Tested battery life: 3:58</li> </ul>           | <ul style="list-style-type: none"> <li>1.73-GHz Pentium M 740</li> <li>12.1-inch wide screen</li> <li>3.2 pounds</li> <li>DVD-ROM/CD-RW</li> </ul>      |
| ▶ <b>Bottom line:</b> Inexpensive model comes with two batteries, a four-in-one media-card reader, and an external optical drive.             |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 3                                                                                                                                             | <b>Alienware Sentia m3200</b><br>\$1454<br><a href="http://find.pcworld.com/52022">find.pcworld.com/52022</a>                   | 76<br>Good      | <ul style="list-style-type: none"> <li>WorldBench 5 score: 92 Superior</li> <li>Overall design: Good</li> <li>Tested battery life: 2:53</li> </ul>       | <ul style="list-style-type: none"> <li>2-GHz Pentium M 760</li> <li>12.1-inch wide screen</li> <li>4.8 pounds</li> <li>DVD+R DL/DVD±RW</li> </ul>       |
| ▶ <b>Bottom line:</b> Alienware's fast thin-and-light notebook offers a bright wide-screen display and a well-designed case.                  |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 4                                                                                                                                             | <b>Fujitsu LifeBook P7120 Notebook</b><br>\$2099<br><a href="http://find.pcworld.com/52028">find.pcworld.com/52028</a>          | 75<br>Good      | <ul style="list-style-type: none"> <li>WorldBench 5 score: 60 Fair</li> <li>Overall design: Very Good</li> <li>Tested battery life: 6:26</li> </ul>      | <ul style="list-style-type: none"> <li>1.2-GHz Pentium M ULV 753</li> <li>10.6-inch wide screen</li> <li>2.8 pounds</li> <li>DVD+R DL/DVD±RW</li> </ul> |
| ▶ <b>Bottom line:</b> Cleverly designed, stylish laptop makes a fine ultraportable. A high price is its only significant drawback.            |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |
| 5                                                                                                                                             | <b>HP Compaq nc4200 Notebook PC</b><br>\$1549<br><a href="http://find.pcworld.com/52024">find.pcworld.com/52024</a>             | 74<br>Good      | <ul style="list-style-type: none"> <li>WorldBench 5 score: 79 Very Good</li> <li>Overall design: Good</li> <li>Tested battery life: 5:12</li> </ul>      | <ul style="list-style-type: none"> <li>1.86-GHz Pentium M 750</li> <li>12.1-inch screen</li> <li>3.9 pounds</li> </ul>                                  |
| ▶ <b>Bottom line:</b> This business-oriented laptop has no optical drive, but it successfully marries portability and a great keyboard.       |                                                                                                                                 |                 |                                                                                                                                                          |                                                                                                                                                         |

**CHART NOTES:** Prices and ratings are as of 5/5/06. For each model, weight listed does not include the AC adapter, power cord, or optical drive.



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# MovieFactory Makes Creating Movie Discs Easy

## DVD SOFTWARE

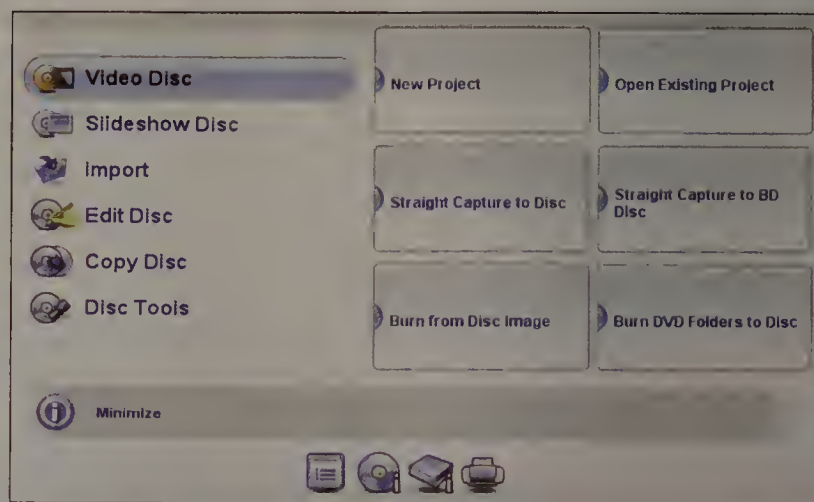
RATHER THAN ATTEMPTING to be everything to everyone, Ulead's \$50 **DVD MovieFactory 5** instead focuses on just one job—burning video and movies to disc—and tries to make it as painless as possible.

Getting started is easy. The launcher's interface is blissfully uncluttered and clean, offering quick access to features that handily cover most

video-related burning chores you might want to perform.

For the most part, I found the software convenient to navigate and use for the different tasks. Creating a basic DVD videodisc was a simple and pleasant experience: You just choose the files, and, if they aren't already MPEG-2 encoded, the software will do the necessary transcoding. It works with a variety of formats and is ready to output to high-definition optical as well. Among the other improvements: Ulead has bolstered the video editing tools and introduced an Ad-Zapper feature for removing commercials from TV content.

This application's biggest drawback is its limited flexi-



MOVIEFACTORY'S INTERFACE makes performing burning tasks easy.

bility. When I was creating a videodisc, for example, I was often frustrated by the suite's inability to undo an action. Also, I couldn't rotate a background image, nor could I find any way to change the image-quality settings.

Though I found much to

like about MovieFactory, I suspect this package will become merely one component of my disc-burning arsenal—a supplement to, but not a replacement for, suites from Nero or Roxio, which each cost about twice the price.

—Melissa J. Perenson

## DVD MovieFactory 5

Ulead Systems

PCW Rating **80** Very Good

Useful, relatively easy-to-use software for creating movie DVDs could offer a bit more creative flexibility.

Street: \$50

find.pcworld.com/53200

# Big, Beautiful Gaming Notebook From Toshiba

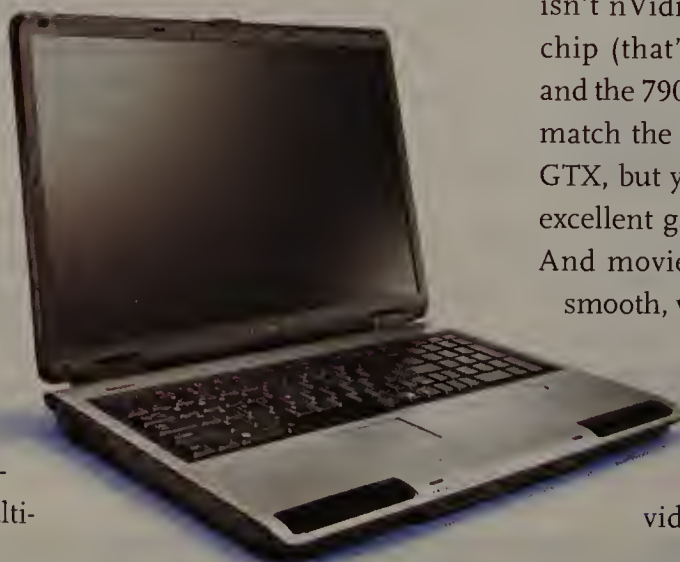
## NOTEBOOK

**TEST** A TERRIFIC SCREEN, rich sound, and superior performance make the **Satellite P105-S921** gaming notebook from Toshiba really stand out. The system's \$1999 price—quite reasonable considering what you get for it—only sweetens the deal.

The P105-S921 is a hefty beast—there's no getting around that. The unit weighs 9.2 pounds ready for travel, and measures 15.5 by 10.8 by nearly 2 inches. But that hulking package comes fully loaded. The laptop has a beautiful 17-inch, glossy, wide-screen (1440-by-900-pixel) LCD, a built-in multi-

format rewritable DVD drive, 160GB of storage, gigabit ethernet, 802.11 a/b/g Wi-Fi, 1GB of DDR2 SDRAM, and an Intel 1.83-GHz Core Duo T2400 processor for some high-performance kick.

**TOSHIBA'S SATELLITE P105-S921 has a gorgeous screen.**



The Satellite soundly delivered that kick on our World-Bench 5 tests, earning a score of 95—which shows that it's plenty fast for most purposes. You also get good graphics performance from the unit's nVidia GeForce Go 7900 GS graphics with 256MB of dedicated GDDR3 memory. This isn't nVidia's top-of-the-line chip (that's the 7900 GTX), and the 7900 GS doesn't quite match the power of the 7900 GTX, but you should still get excellent game play out of it. And movie playback looked smooth, with great colors.

The pair of Harman/Kardon speakers with subwoofer provide full, rich sound

for music, video, or games.

The P105-S921 has a good keyboard and a full numeric keypad next to it. One gripe: Because the <Backspace> key is next to the numeric keypad, I accidentally bumped into the keypad several times while getting used to the layout.

The Satellite P105-S921 packs a lot of power and does so at a price that makes it worth a very close look.

—Anush Yeghazarian

## Satellite P105-S921

Toshiba

PCW Rating **83** Very Good

This full-featured gaming system offers a great screen and very good speakers, at a fair price.

Street: \$1999

find.pcworld.com/53212

# Monitor or HDTV? Pick Your Perfect Plasma

## PLASMA DISPLAYS

**TEST Center** FOR MANY FOLKS, a big plasma HDTV is more mouthwatering than a fresh funnel cake; but the prices are much harder to swallow. It's tempting to try to save money where you can, perhaps by buying a tunerless high-definition monitor instead of an actual HDTV. We tested Samsung's \$4000 **HP-S5053**, an HDTV, and compared it with the \$2500 Maxent **MX-50X3** and Vizio **P50 HDM** HD monitors. All three are 50-inch plasmas, but what those plasma screens can do, and what you need in order to get a good picture, varies with the model.

With its gleaming black cabinet, brushed-metal accent, and blue-lit power button, the Samsung HP-S5053 cuts a figure worthy of its \$4000 asking price. A tour through the set's features reveals many HDTV checklist items: an NTSC tuner for analog TV programming, an ATSC tuner for digital TV content, two HDMI inputs, and both RCA and digital audio outputs.

In *PC World's* jury testing, the Samsung HDTV pleased viewers by displaying natural-looking skin tones and saturated colors on both standard-definition and high-definition TV content, as well as on DVD content. The unit's brightness



MAXENT'S MX-50X3 50-INCH plasma monitor offers an appealing combination of good image quality and a reasonable price.

and contrast remained strong even in our bright-lights test and in our challenging DVD tests. Many TVs have trouble displaying the contrast in a dimly lit scene on our *The Lord of the Rings: The Return of the King* DVD test, but the HP-S5053 set ably handled such challenging tasks as capturing the highlights on a black velvet cloak.

Image quality, however, doesn't have to cost you several grand: The \$2500 Maxent MX-50X3 HD plasma monitor's test scores nearly equaled the Samsung's marks on both standard- and high-def TV

content. We particularly liked its strong colors on both types of TV shows. This plasma monitor gave its weakest performance on DVD playback, losing details in the shadowy *Lord of the Rings* scene and balking at the mix of vivid colors and natural skin tones in the movie *Seabiscuit*.

## TUNER REQUIRED

AN HD MONITOR has neither an NTSC nor an ATSC tuner. That means you'll need to add an HD-ready tuner in order to use the Maxent or the Vizio as a television. If you don't care for your set-top

tuner provider's remote control, though, you might want to look into a universal remote. For example, the Maxent's is full of buttons that teasingly call out unavailable functions, including Channel Up and Channel Down. But if you already have a setup that works with the MX-50X3, the TV picture could be as appealing as the monetary savings.

The other HD monitor we evaluated, the 50-inch, \$2500 Vizio P50 HDM, fared poorly with our test jury. The display's picture appeared dark and lacking in detail on all TV and DVD content tests. Despite what the inclusion of two HDMI inputs implies, the unit's quality seemed a better fit for showing PowerPoint slides in a conference-room presentation than for watching TV and DVDs in the living room. On the plus side, Vizio's clear commitment to easy setup—thorough documentation, great on-screen menus, and clearly labeled inputs—is one of the P50 HDM's best selling points.

An HDTV—or an HD monitor—is only part of the recipe for high-def. Before you buy, make sure you know which ingredients you'll need.

You'll pay more for (and get more from) a full-featured HDTV like the Samsung set. Its price of \$4000 lowered its score compared with the two monitors here, but it isn't out of line with the cost of comparable HDTVs. That said, you may be satisfied with the price/performance balance of an HD monitor like the Maxent. Its value is hard to beat.

—Laura Blackwell

### MX-50X3

Maxent

PCW Rating **81 Very Good**

With nice image quality and a low price, this HD monitor is a good buy for people who already have a decent HD tuner.

Street: \$2500

[find.pcworld.com/53076](http://find.pcworld.com/53076)

### HP-S5053

Samsung

PCW Rating **79 Good**

A good picture, plenty of connections, and appealing extras come together in this HDTV plasma—but it will cost you.

List: \$4000

[find.pcworld.com/53074](http://find.pcworld.com/53074)

### P50 HDM

Vizio

PCW Rating **79 Good**

Easy setup (and so-so TV picture quality) make this HD monitor an acceptable choice for budget-aware businesses.

Street: \$2500

[find.pcworld.com/53072](http://find.pcworld.com/53072)

## TOP 10 MULTIFUNCTION INKJETS

# Latest All-in-Ones Pack in the Features

**TEST Center** A COUPLE OF versatile multifunction inkjet printers ideal for a small business or home office debut in this month's chart.

In second place, Canon's \$300 Pixma MP830 includes a 2.5-inch LCD, fax functionality, and a 35-page automatic document feeder with duplexing that saves you from having to flip two-sided sheets over manually. It broke print and scan speed records in most of our lab tests and produced rich color photos.

Priced at \$200, Brother's compact MFC-640CW is loaded with nice features such as



**CANON'S NEW PIXMA MP830** is speedy and full featured.

a ten-page ADF, color faxing, a speakerphone (with a handset), and a digital answering machine. The device, ranked seventh, also provides built-in Wi-Fi and ethernet interfaces, and it can print or fax from—or scan to—a networked PC.

—Danny Allen

## ONLINE

FOR MORE INFORMATION about the multifunction printers reviewed in this chart, including testing details, go to [find.pcworld.com/53496](http://find.pcworld.com/53496).

|    | MULTIFUNCTION INKJET                                                                                                                                       | PCW Rating                    | Performance                                                                                                                                                       | Features and specifications                                                                                                                      |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | <b>Canon Pixma MP500</b><br><b>Best BUY \$200</b><br><a href="http://find.pcworld.com/51040">find.pcworld.com/51040</a>                                    | <b>82</b><br><b>Very Good</b> | <ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 6.4 text/2.4 graphics</li> </ul>      | <ul style="list-style-type: none"> <li>29 ppm text</li> <li>19 ppm graphics</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> Dual paper trays, a built-in duplexer, and strong text and photos make the Pixma MP500 a good value even without fax capability.     |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 2  | <b>Canon Pixma MP830</b><br><b>\$300 NEW</b><br><a href="http://find.pcworld.com/53194">find.pcworld.com/53194</a>                                         | <b>81</b><br><b>Very Good</b> | <ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 8.2 text/2.9 graphics</li> </ul>      | <ul style="list-style-type: none"> <li>30 ppm text</li> <li>24 ppm graphics</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> The fast-performing Pixma MP830 includes fax and duplex ADF capabilities, and it produces top-notch prints, copies, and scans.       |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 3  | <b>HP Officejet 7410 All-in-One</b><br><b>\$500</b><br><a href="http://find.pcworld.com/51046">find.pcworld.com/51046</a>                                  | <b>77</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 6.9 text/2.1 graphics</li> </ul>      | <ul style="list-style-type: none"> <li>30 ppm text</li> <li>20 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> Wi-Fi and excellent paper handling justify this unit's price. It's well equipped with an ADF, fax, and a 2.5-inch LCD.               |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 4  | <b>HP Officejet 7210 All-in-One</b><br><b>\$300</b><br><a href="http://find.pcworld.com/47608">find.pcworld.com/47608</a>                                  | <b>77</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 6.8 text/2.2 graphics</li> </ul>      | <ul style="list-style-type: none"> <li>9.8 ppm text</li> <li>5.7 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul> |
|    | ► <b>Bottom line:</b> This model provides ethernet networking and high print quality, in addition to offering fast copying and photo printing.             |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 5  | <b>Canon Pixma MP950</b><br><b>\$400</b><br><a href="http://find.pcworld.com/51042">find.pcworld.com/51042</a>                                             | <b>77</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Very Good</li> <li>Tested speed (ppm): 8.4 text/2.4 graphics</li> </ul> | <ul style="list-style-type: none"> <li>29 ppm text</li> <li>22 ppm graphics</li> <li>9600-by-2400-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> The Pixma MP950 has a 3.6-inch LCD and great paper handling, and yields high-quality text and photos. Scan results were mixed.       |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 6  | <b>Epson Stylus CX7800</b><br><b>\$180</b><br><a href="http://find.pcworld.com/51044">find.pcworld.com/51044</a>                                           | <b>77</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 1.7 text/1.4 graphics</li> </ul>           | <ul style="list-style-type: none"> <li>20 ppm text</li> <li>19 ppm graphics</li> <li>5760-by-1440-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> This affordable unit has good-quality scans and photo output, but suffers from a small LCD, slow printing, and basic paper handling. |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 7  | <b>Brother MFC-640CW</b><br><b>\$200 NEW</b><br><a href="http://find.pcworld.com/53192">find.pcworld.com/53192</a>                                         | <b>76</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Fair</li> <li>Graphics quality: Fair</li> <li>Tested speed (ppm): 3.4 text/1.1 graphics</li> </ul>           | <ul style="list-style-type: none"> <li>20 ppm text</li> <li>15 ppm graphics</li> <li>6000-by-1200-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> Feature-packed and appealingly priced, the MFC-640CW boasts fax capabilities, an ADF, and ethernet and Wi-Fi networking.             |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 8  | <b>HP PSC 1610 All-in-One</b><br><b>\$130</b><br><a href="http://find.pcworld.com/47610">find.pcworld.com/47610</a>                                        | <b>75</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Very Good</li> <li>Graphics quality: Good</li> <li>Tested speed (ppm): 4.9 text/1.4 graphics</li> </ul>      | <ul style="list-style-type: none"> <li>7.4 ppm text</li> <li>5 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> This model has a low price for high print quality overall. It's fast at printing photos but slow at copying.                         |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 9  | <b>Lexmark P4350</b><br><b>\$130</b><br><a href="http://find.pcworld.com/51048">find.pcworld.com/51048</a>                                                 | <b>75</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Fair</li> <li>Graphics quality: Poor</li> <li>Tested speed (ppm): 7.3 text/1.3 graphics</li> </ul>           | <ul style="list-style-type: none"> <li>22 ppm text</li> <li>15 ppm graphics</li> <li>4800-by-1200-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> The P4350 is affordably priced and has good text print speeds, but comes with a tiny screen and limited paper handling.              |                               |                                                                                                                                                                   |                                                                                                                                                  |
| 10 | <b>Brother MFC-5840CN</b><br><b>\$180</b><br><a href="http://find.pcworld.com/47552">find.pcworld.com/47552</a>                                            | <b>74</b><br><b>Good</b>      | <ul style="list-style-type: none"> <li>Text quality: Fair</li> <li>Graphics quality: Poor</li> <li>Tested speed (ppm): 3.4 text/1.1 graphics</li> </ul>           | <ul style="list-style-type: none"> <li>20 ppm text</li> <li>15 ppm graphics</li> <li>6000-by-1200-dpi maximum true color resolution</li> </ul>   |
|    | ► <b>Bottom line:</b> This MFP offers networking, but text printing and scan speeds are slow, and copy speed is below average.                             |                               |                                                                                                                                                                   |                                                                                                                                                  |

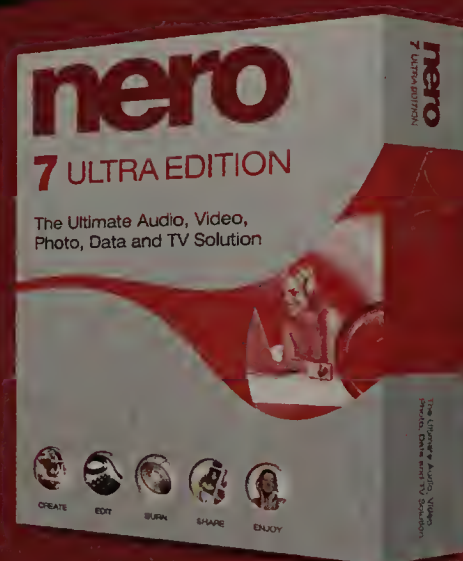
**CHART NOTE:** Prices and ratings are as of 5/5/06.

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# Seagate's New Giant Drive Spins to the Top

## HARD DRIVES

### TEST CENTER

**THE NEW SEAGATE Barracuda 7200.10 750GB** drive sets records for capacity and performance at a surprisingly low price. This big, fast, and affordable drive should satisfy even the most demanding digital pack rat.

The Barracuda drive we tested has 16MB of cache and supports SATA-150 by default. We evaluated it using SATA-300, which required resetting a single jumper.

In our performance tests, the drive excelled across the spectrum. It rates as the fastest 7200-rpm hard drive we've tested; and overall, it was bested only by the 150GB Western

Digital Raptor X, which runs at 10,000 rpm. On our write tests, the Barracuda took only 2 minutes, 16 seconds to write a 3.06GB file of folders (finishing just 2 seconds behind the Raptor X), and 1 minute, 39 seconds to write a 3.06GB .zip file (3 seconds ahead of the Raptor X, and 52 seconds faster than another Barracuda drive, the 7200.8 400GB). The 7200.10's performance was also strong on other World-Bench 5 tests. It took 6 minutes, 37 seconds to complete our ISO image-file test script in Nero's Nero Express 6.0.0.3 (in which we create a 538MB set of files, and burn eight ISO images from that set);

and it completed a script that creates a 538MB compressed file in 5 minutes, 20 seconds (beating the speedy Raptor WD740GD, the next-fastest drive, by 14 seconds).

The Barracuda manages its breakthrough capacity—a 50 percent increase over the previous industry high-water mark of 500GB—using perpendicular magnetic recording (or PMR), which increases the drive's areal density by changing the way the drive records data on its disks. With PMR, bits of data—which are represented by magnetized particles whose north and south poles are typically oriented in either direction—are arranged perpendicularly to the surface of the disk, so that the bits are closer together than with traditional, longitudinal recording, where the particles are arranged parallel to the disk surface. With this arrangement, drive manufacturers can either squeeze more data onto a drive using the same number of platters and heads as in a traditional, longitudinal drive, or they can achieve the same overall capacity as in a traditional drive using fewer components and less power.

On a cost-per-gigabyte basis, your wallet won't take a huge hit, either. The SATA version of the Barracuda 7200.10 750GB will debut at \$590, or \$0.79 per gigabyte—higher than the \$0.62 average cost of 7200-rpm drives, but less than



### THE SEAGATE

#### BARRACUDA 7200.10

uses perpendicular recording to achieve 750GB of storage.

the usual \$1-per-gigabyte pricing model we have seen with previous new drives. By the time you read this, Seagate will also be shipping its external 750GB Pushbutton Backup Hard Drive (the expected price at launch is \$560).

Seagate's Barracuda 7200.10 750GB combines voluminous storage and high-end performance in a single hard drive. If you're in the market for high-capacity storage, this model is your best bet.

—Melissa J. Perenson

#### Barracuda 7200.10 750GB

Seagate

PCW Rating **86** Very Good

Gargantuan drive offers record-high storage capacity and class-leading performance.

Street: \$590

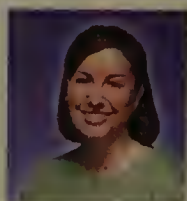
find.pcworld.com/53196

## ASK OUR EXPERTS

### Memory: Seeing Double

I HAVE A motherboard that supports PC2100 DDR RAM. Should I use two memory slots for optimum bandwidth instead of a single slot? Will two 256MB memory modules perform better than a single 512MB module?

Hong Ng, Singapore



**Associate Editor Liane Cassavoy responds:**

In short, yes to both. If your motherboard supports dual-channel memory, installing two identical modules should improve computer performance by 10 to 15 percent,

according to Mike Sanor, technical support manager at memory manufacturer Crucial Technology. While systems also work with a single memory module, installing modules in identical pairs boosts performance, because it gives each module its own pathway to the memory controller, doubling the peak data bandwidth. (Consult your computer's manual to determine which two sockets on your motherboard support dual-channel memory.) Sanor also says that manufacturers are phasing out PC2100 DDR, but the more widely available PC2700 DDR is backward-compatible.

Need information or advice about a buying decision? Drop us a line at askourexperts@pcworld.com.

Lenovo recommends Windows® XP Professional



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Lenovo recommends Windows® XP Professional

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### ThinkPad X60

#### distinctive innovations

ThinkVantage™ Client Security\* — Strong security as a standard feature

#### system features

Intel® Centrino® Duo Mobile Technology  
Intel® Core™ Duo Processor T2300<sup>4</sup>  
Intel® Pro/Wireless 3495ABG

Genuine Windows® XP Professional<sup>5</sup>

12.1" XGA TFT (1024x768)

Travel Weight 3.15 lbs<sup>7</sup>

512MB<sup>8</sup> memory, 60GB<sup>9</sup> Hard Drive

Integrated Fingerprint Reader

#### TopSeller Model

**\$1499\*** PN 170947U

#### Option

ThinkPad Leather Carrying Case<sup>10</sup>

**\$99** PN 10K0209

Upgrade to 2 yrs Onsite Repair<sup>11</sup>

**\$299** PN 2529R8U

### ThinkPad Z60m Widescreen

#### distinctive innovations

ThinkPad Productivity Center — ThinkPad help at your fingertips

#### system features

Intel® Centrino® Mobile Technology  
Intel® Pentium® M Processor 740 (1.70 GHz)  
Intel® Pro/Wireless 2915ABG

Genuine Windows® XP Professional

15.4" WXGA Widescreen (1280x800)

512MB memory, 60GB Hard Drive, 3 USB

4-in-1 Media Reader

DVD-R Drive

#### TopSeller Model

**\$1349** PN 2529E6U

#### Option

ThinkPad T60/Z60m 9 Cell Li-Ion Battery

**\$179** PN 40Y6797

Upgrade to 3 yr Onsite Repair 9X5  
next day

**\$132** PN 41C9257



ThinkPad X60 notebook available with  
Intel® Centrino® Duo Mobile Technology

### ThinkPad T60

#### distinctive innovations

ThinkVantage Client Security — Strong security as a standard feature

#### system features

Intel® Centrino® Duo Mobile Technology  
Intel® Core™ Duo Processor T2300  
Intel® Pro/Wireless 3495ABG

Genuine Windows® XP Professional

14.1" XGA Display (1024x768)

512MB memory, D-RW/DVD Drive

60GB Hard Drive, 2 USB

Travel Weight 4.5 lbs and only 1" thin

#### TopSeller Model

**\$1349** PN 1953D6U

#### Option

Maxtor One Touch II 200 GB USB 2.0  
Hard Drive

**\$175** PN 41A4274

### ThinkPad T60

#### distinctive innovations

ThinkPad Productivity Center — ThinkPad help at your fingertips

#### system features

Intel® Centrino® Duo Mobile Technology  
Intel® Core™ Duo Processor T2400  
Intel® Pro/Wireless 3495ABG

Genuine Windows® XP Professional

15" XGA Display (1024x768)

512MB memory, D-RW/DVD Drive

80GB Hard Drive, ATI x1300 Graphics

Travel Weight 4.5 lbs and only 1" thin

#### TopSeller Model

**\$1599** PN 2623DAU

#### Option

ThinkPad Advanced Mini Dock

**\$219** PN 250410U

### ThinkCentre A52 Tower

#### distinctive innovations

Rescue and Recovery™ — One-button recovery and restore solution

#### system features

Intel® Celeron® D Processor 331 (2.66 GHz)

Genuine Windows® XP Professional

256MB memory

40GB Hard Drive, CD-ROM

6 USB 2.0 ports (2 Frontside)

#### TopSeller Model

**\$479** PN 8288A2U

#### Option

L171 ThinkVision® Flat Panel Monitor

**\$279** with System Purchase | **\$299** Regular Price  
PN 9417AB1

### ThinkCentre A52 Tower

#### distinctive innovations

Rescue and Recovery™ — One-button recovery and restore solution

#### system features

Intel® Pentium® 4 Processor 521 (2.80 GHz)

Genuine Windows® XP Professional

512MB memory

80GB Hard Drive, CD-RW/DVD Drive

6 USB 2.0 Ports (2 Frontside)

#### TopSeller Model

**\$649** PN 8288A1U

#### Option

Lexmark Z735 InkJet USB 2.0

with cable  
**\$50** PN 40Y8446

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## TOP 5 NETWORK-ATTACHED DRIVES

## Slim Ximeta NAS Drive Delivers Top Speed

**TEST Center** NETWORK-ATTACHED storage lets you keep data in a single location that's accessible to any computer on the same network. We tested three new models for this month's chart, which includes both multidrive-array models and single-drive units.

The slender Ximeta NetDisk ND10 debuts at number one after turning in a stellar performance in our benchmarks. While other NAS units typically appear as networked drives on connected PCs, the Ximeta product uses a proprietary Network Direct Attached Storage (NDAS) chip and its own networking protocol to enable direct communication between the device and the computers. Special software that you install on each com-

puter allows the device to appear as a local drive for each networked machine, instead of as a network drive shared among them.

The end result: Faster performance when you're transferring files to and from the device. For example, the Ximeta took just 317 seconds to copy a 3.06GB folder of files, while the second-place Infrant Technologies ReadyNAS NV (a multidrive array with its own special software) took 372 seconds, and the remaining units each took more than 500 seconds. In addition, the Ximeta NetDisk outran all comers in the file copying test, where we copy a single large .zip file.

Another notable aspect of



**XIMETA CRUISES AHEAD of the pack with its compact NetDisk ND10 hard drive.**

the Ximeta drive: Besides having a custom version of Acronis TrueImage 9 backup software preinstalled, the product includes a USB 2.0 port (a rare find in NAS drives); this feature allows you to use the NetDisk as a boot drive if your system's BIOS supports booting from a USB drive.

Debuting at number four this month is Maxtor's Shared Storage Plus drive. At 500GB, the model is the largest single-drive NAS device we have tested; unfortunately, it is also among the slowest. Maxtor's utilities, which include backup and drive management, are more full-featured than most, and very easy to use. Especially noteworthy is the software's Drag and Sort component; this feature lets you automatically sort files by type (for example, movies, photos, software, documents).

Our last new drive tested this month finished out of the Top 5 despite solid performance numbers and a good price. The Plextor PX-EH40L's greatest weakness is its omission of utilities for drive management and backup, features that are common among NAS devices. To install the drive, you have to manually seek it out in Windows Explorer, and then map a drive letter to it.

The unit did well in tests—it bested all but the Ximeta among our single-drive NAS boxes—and we liked its sleek design, matching network cable, and easy-view status lights. But the lack of software kept the drive off the chart.

—Melissa J. Perenson

## ONLINE

FOR MORE INFORMATION on the network-attached storage drives reviewed here, including testing details, go to [find.pcworld.com/53508](http://find.pcworld.com/53508).

|                                                                                                                                                 | NETWORK-ATTACHED STORAGE                                                                                                                                 | PCW Rating             | Performance                                                                                                                                         | Features and specifications                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                                                                               | <b>Ximeta NetDisk ND10</b><br><b>Best \$480 NEW BUY</b><br><a href="http://find.pcworld.com/53216">find.pcworld.com/53216</a>                            | <b>80</b><br>Very Good | <ul style="list-style-type: none"> <li>Overall performance: Superior</li> <li>Copy files: 317 seconds</li> <li>File search: 42 seconds</li> </ul>   | <ul style="list-style-type: none"> <li>400GB</li> <li>7200 rpm</li> <li>10/100 ethernet</li> <li>Cost per gigabyte: \$1.20</li> </ul>   |
| ► <b>Bottom line:</b> Stellar performer shoots past competitors thanks to its NDAS technology, but you'll need to install an applet on each PC. |                                                                                                                                                          |                        |                                                                                                                                                     |                                                                                                                                         |
| 2                                                                                                                                               | <b>Infrant Technologies ReadyNAS NV</b><br><b>\$1199</b><br><a href="http://find.pcworld.com/52074">find.pcworld.com/52074</a>                           | <b>77</b><br>Good      | <ul style="list-style-type: none"> <li>Overall performance: Very Good</li> <li>Copy files: 372 seconds</li> <li>File search: 100 seconds</li> </ul> | <ul style="list-style-type: none"> <li>1000GB</li> <li>7200 rpm</li> <li>Gigabit ethernet</li> <li>Cost per gigabyte: \$1.20</li> </ul> |
| ► <b>Bottom line:</b> Superfast multidrive terabyte NAS box is loaded with features, but it ships with a usable capacity of only 660GB.         |                                                                                                                                                          |                        |                                                                                                                                                     |                                                                                                                                         |
| 3                                                                                                                                               | <b>Buffalo Technology LinkStation 250GB Network Storage Center</b><br><b>\$230</b><br><a href="http://find.pcworld.com/45888">find.pcworld.com/45888</a> | <b>77</b><br>Good      | <ul style="list-style-type: none"> <li>Overall performance: Poor</li> <li>Copy files: 597 seconds</li> <li>File search: 105 seconds</li> </ul>      | <ul style="list-style-type: none"> <li>250GB</li> <li>5400 rpm</li> <li>10/100 ethernet</li> <li>Cost per gigabyte: \$0.92</li> </ul>   |
| ► <b>Bottom line:</b> A great, inexpensive pick for the home user who doesn't need massive capacity or high performance.                        |                                                                                                                                                          |                        |                                                                                                                                                     |                                                                                                                                         |
| 4                                                                                                                                               | <b>Maxtor Shared Storage Plus</b><br><b>\$500 NEW</b><br><a href="http://find.pcworld.com/53198">find.pcworld.com/53198</a>                              | <b>76</b><br>Good      | <ul style="list-style-type: none"> <li>Overall performance: Poor</li> <li>Copy files: 586 seconds</li> <li>File search: 111 seconds</li> </ul>      | <ul style="list-style-type: none"> <li>500GB</li> <li>7200 rpm</li> <li>10/100 ethernet</li> <li>Cost per gigabyte: \$1.00</li> </ul>   |
| ► <b>Bottom line:</b> Hefty drive packs plenty of storage, but is slow. Includes useful file-sorting and backup software.                       |                                                                                                                                                          |                        |                                                                                                                                                     |                                                                                                                                         |
| 5                                                                                                                                               | <b>Buffalo Technology TeraStation Home Server</b><br><b>\$850</b><br><a href="http://find.pcworld.com/52082">find.pcworld.com/52082</a>                  | <b>75</b><br>Good      | <ul style="list-style-type: none"> <li>Overall performance: Good</li> <li>Copy files: 645 seconds</li> <li>File search: 88 seconds</li> </ul>       | <ul style="list-style-type: none"> <li>1000GB</li> <li>7200 rpm</li> <li>Gigabit ethernet</li> <li>Cost per gigabyte: \$0.85</li> </ul> |
| ► <b>Bottom line:</b> Multidrive array has media server support for use with a multimedia-centric home network; includes backup software.       |                                                                                                                                                          |                        |                                                                                                                                                     |                                                                                                                                         |

**CHART NOTES:** Prices and ratings are as of 4/28/06.

# Peachtree 2007 Improves MS Office Integration

## ACCOUNTING SOFTWARE

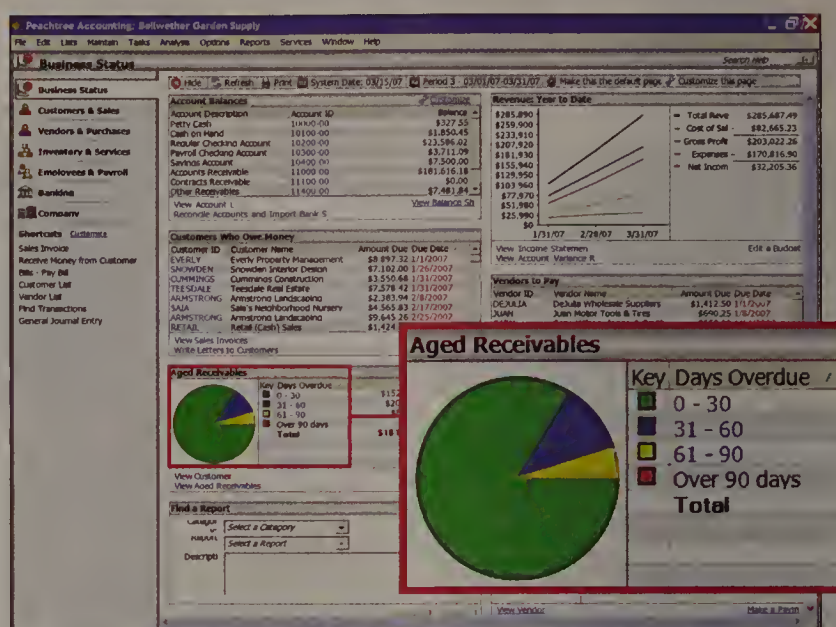
THE SMALL-BUSINESS accounting market is hotly competitive, and Sage Software has kept close tabs on what its rivals are up to. With **Peachtree Premium 2007**, Sage strengthens its product in response to the tougher competition.

For starters, Peachtree has bolstered the software's integration with Microsoft Office, thereby countering the threat from Microsoft's Office Small Business Accounting (find.pcworld.com/53226). Other improvements include a new and more powerful back-end database that's similar to Intuit's upgrade in QuickBooks 2006 (find.pcworld.com/53228). The late beta version of Peachtree Premium 2007 that I reviewed also enhances

the user interface by adding a Business Status Center and by making it easier for you to view account lists.

Users of recent versions (2000 or later) of Excel and Outlook will welcome Peachtree's closer links to Office. You can export data from Peachtree into Excel with a new option that retains the layout and the format of the Peachtree report, along with the accounting numbers. Your export retains formulas, too, and you can keep report headers and frozen panes for easier scrolling of on-screen financial reports.

Creating a budget within Peachtree is easier, too. The software now operates more like a spreadsheet. Once you've set up synchronization, your Outlook and Peachtree con-



PEACHTREE'S INTERFACE NOW includes a Business Status display—a screen providing a graphic snapshot of your company's finances.

tact information for customers, vendors, and employees will automatically be kept up-to-date in both apps.

Sage replaces the Btrieve database it used in Peachtree 2006 with the more robust Pervasive 9.1 database. Single-user businesses with relatively few transactions likely won't notice much performance improvement with the upgrade, but companies with many transactions or with multiple users should experience a nice performance boost—and fewer multiuser lockups.

The app simplifies organizing and looking up information by including 25 lists for sorting by customer, vendor, inventory, employee, and so on. You can quickly sort each list in several different ways just by clicking on a column, which makes it easier to find the information you want.

Even the main Peachtree screen has a new streamlined look. The new Business Status display, which replaces the Peachtree Today screen, packs more usable information onto

the screen in a format that's easier to understand.

As usual, Peachtree comes in several editions. I reviewed the \$500 Peachtree Premium, a five-user-ready application for businesses that require such advanced accounting features as departmentalized financial statements, serialized inventory, progress billings, and company consolidation. If you don't need these Premium frills, the single-user Peachtree Complete (priced at \$270) may be a better match for your company's needs.

Peachtree Premium 2007's improved user interface and tighter integration with Office make it a worthwhile upgrade for all current Peachtree users.

—Richard Morochove

## Peachtree Premium 2007

Sage Software

PCW Rating **81** Very Good

Good small-business accounting app now offers better Microsoft Office integration.

List: \$500 for one user (Peachtree Complete 2007 costs \$270)

find.pcworld.com/53230

## TECH TREND

## No-Box Security Software

YOUR SECURITY SOFTWARE may have arrived in a box, but it must download regular program updates and virus definitions from the Internet to recognize and guard against the latest threats. Very soon, however, boxed security software will begin facing new competition from online applications.



For example, as of June Microsoft is launching its Windows Live OneCare, offering PC security and utilities services for \$50 a year; and Symantec's comparable service, code-named Genesis, will become available in September. But don't expect retail boxes to disappear. As long as shoppers drive to stores, security companies will continue to sell software in boxes. Even

Microsoft and Symantec plan to offer their new services via retail. Still, that box may be more a way for security companies to reach you than a way for you to reach their software.

—Narasu Rebbapragada

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**HP LaserJet 1320n**  
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- Prints up to 22ppm B/W
- 1200 x 1200 dpi max resolution
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- 1-year warranty

**\$499.00**

**Black Toner Cartridge –**

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# Beam Films Directly to Your Living Room

## VIDEO SYSTEM

THE PROSPECT OF on-demand access to movies will attract many people to the MovieBeam service. But despite its long-term promise, this first iteration needs fine tuning before I'll count on it as a regular entertainment option.

A bit slimmer than a typical

### MovieBeam Player

MovieBeam

PCW Rating **77 Good**

Service delivers on-demand movie rentals, but it suffers from middling image quality and a limited selection of titles.

List: \$200 for box, plus \$2 to \$4 per movie rental

[find.pcworld.com/53490](http://find.pcworld.com/53490)

cable box, the \$200 **MovieBeam Player** gives you a changing group of 100 titles that it stores on a 160GB hard drive (the service sends 10 new titles over the air every week, while arbitrarily deleting others; you can't specify titles that you might want to keep longer). Each time you access a movie, it costs \$2 to \$4; and you can view your new "rental" as often as you like during the next 24 hours.

The player is exceptionally easy to set up, thanks to a handy step-by-step guide included in the box, well-labeled ports, and an attractive TiVo-esque on-screen menu.

The menu system is fast



GET UP TO 100 movies with MovieBeam (with antenna and remote).

and convenient, which makes scrolling through movie titles a pleasure. And the nicely balanced remote is easy to use.

My gripes with the player are practical ones. You never know exactly when a movie is going to disappear, you can't search the offerings by type, and the unit sometimes exhibits its quirky behavior (such as a delay when you move between movie and menu). The player's image quality is iffy, too

(it reminds me of the pixelation that I see with TiVo's 2-hour mode). Finally, although having 100 titles to choose from sounds like a lot, it isn't really, and far too many of the titles offered are mediocre.

For now, MovieBeam is too much a work in progress for me to recommend, but I see enough potential here to look forward to what the service has coming up next.

—Melissa J. Perenson

# Sony's First GPS Comes Up Short

## GPS DEVICE

SONY'S FIRST GPS model for the U.S. market, the compact **Nav-U NV-U70** is designed for in-car use and has a bright, clear 3.5-inch LCD screen. But compared to other GPS devices I've tested, it supplied second-rate routes and imperfect driving instructions.

The Nav-U's touch-screen display and built-in maps of the 48 contiguous states (the included CD offers additional U.S. maps) made initial setup easy. Sony says its database contains 1.6 million points of interest, but it's far from complete: When I searched for a Whole Foods grocery store, the device directed me to one some 15 miles away from my location, even though another

store branch was miles closer.

Time and again while I was testing the Nav-U, the routes the device suggested frustrated me. Typically the instructions would get me where I needed to go, but they necessitated more driving time than was necessary. In one in-

**SONY'S NAV-U NV-U70S offers less-than-perfect directions.**



stance the device directed me to continue for several miles along a surface street running parallel to a faster-moving freeway that was just 50 yards away. The feature that I missed the most—and one that other GPS devices have—is an ability to designate roads and intersections to avoid entirely. If you specify a road as blocked, the Nav-U automatically unblocks it for the next route you plan in the same driving area.

A bigger problem for me, especially considering that the Nav-U is primarily an in-car navigation device, was the lack of detail in the directions. For example, the device's clear voice would instruct me to exit a freeway, but it wouldn't specify whether I should use

the eastbound or the westbound off-ramp. I did like the way the device recalculated my directions when I veered off-course, and I also appreciated the Nav-U's blocked-road feature, which helps you navigate around traffic jams.

Nonetheless, the Nav-U's incomplete directions and questionable route choices put it behind less-expensive and better-navigating products from competitors Garmin and TomTom.

—Dennis O'Reilly

### Nav-U NV-U70

Sony

PCW Rating **73 Good**

The device's small size, bright screen, and clear sound don't fully compensate for its dubious routes and ambiguous directions.

Street: \$550

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# New Applications Make Backup Chores Easier

## BACKUP UTILITIES

IF BACKUP ISN'T easy, it just doesn't get done. Three new products—NTI's **Shadow 3**, Stardock's **KeepSafe**, and CMS Products' **BounceBack Professional 7**—promise easy backups, but only two deliver.

Happily, the automatic, continuous native backup promised by the intuitive Shadow 3 now works as advertised. Set the \$30 program to watch important folders, and it copies new and revised files to a safe location as changes occur. Unlike the finicky Shadow 2 (reviewed at [find.pcworld.com/53524](http://find.pcworld.com/53524)), version 3 performed perfectly during my tests.

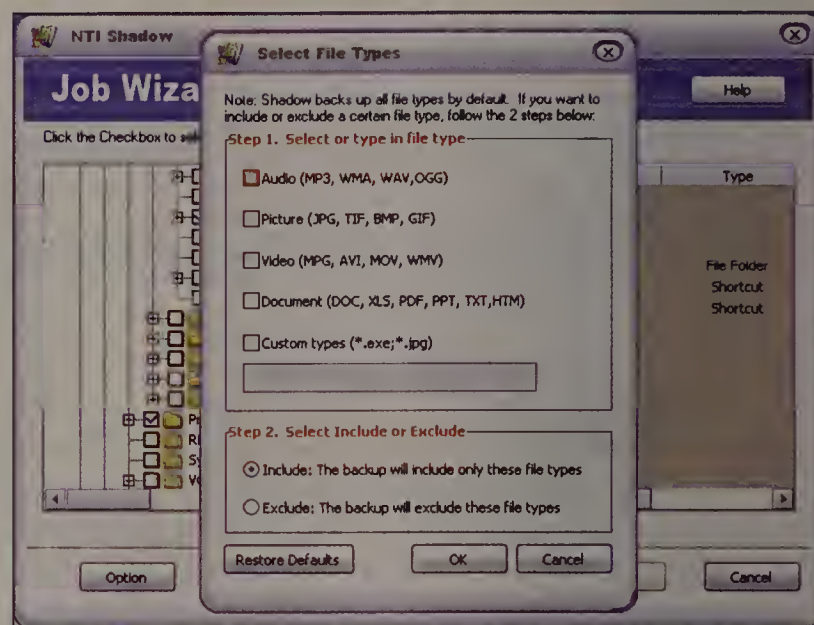
The only enigma I encountered was a mysterious dialog box that popped up to tell me that an operation was successfully completed. After this

happened a couple of times, I realized that the program was creating a baseline backup of the folders I was watching (copying the originals for safe-keeping). NTI has since fixed this problem; early adopters should download the update.

Meanwhile, Stardock's take on real-time backup is KeepSafe. I liked the \$30 program's utilitarian approach to the job; it performed flawlessly, and it even offers a system restore function, something that Shadow 3 lacks.

Alas, the software does not include an option for creating a baseline backup, so you have to copy your existing files to the backup location manually or to a folder that KeepSafe is already watching.

While Shadow 3 and KeepSafe work in real time, CMS's



NTI SHADOW 3 offers a list of filters that let you easily select the types of files you want to monitor for regular backups.

revamped BounceBack Professional 7.0 takes the traditional, scheduled approach to backups. In my informal tests, the \$70 program performed backups without error, but I still can't recommend it.

BounceBack's ability to copy your entire system to an auxiliary hard drive and make that drive bootable can be extremely handy. Unfortunately, it's one of the only things the program does particularly well.

BounceBack's redesigned interface is singularly counter-intuitive. And I discovered that the interface permitted me to define a single location as both the backup source and the destination—a huge no-no. The program also defaults to giving every backup job the same name, and I could not figure out any way to delete a previously defined job.

Finally, the app lacks support for many media formats—such as optical discs and tape—that other schedule-based programs can handle.

Among these three applications, Shadow 3 wins the nod

over KeepSafe for its ease of use. Current users of BounceBack Professional are well advised to stick with version 6 until CMS gets its application's interface sorted out.

—Jon L. Jacobi

## GOTCHA!

## Where's My PC Card Slot?

TECHNOLOGY IS ALWAYS on the move—and sometimes it moves faster than we'd like. Recently, with the arrival of the ExpressCard slot, some unsuspecting notebook buyers have experienced that phenomenon first-hand. Based on a standard announced in 2003, the ExpressCard slot replaces today's PC Card slot, improving performance and using thinner, lighter cards. Unfortunately, it can't support today's PC Cards.



What does that fact mean to you? If your new notebook has only an ExpressCard slot, you'll have to replace all of your existing PC Card-based hardware—such as Wi-Fi cards, memory

card readers, and port adapters. Otherwise, if you're in the market for a new notebook and need a standard PC Card slot, you can still find a unit that offers both slot types.

—Tom Mainelli

## Shadow 3

NTI

PCW Rating **85** Very Good

Automatic background file backup doesn't get any easier, but it won't let you restore files.

List: \$30

[find.pcworld.com/53204](http://find.pcworld.com/53204)

## KeepSafe

Stardock

PCW Rating **83** Very Good

No baseline backup, but in other respects this is a helpful background utility.

List: \$30

[find.pcworld.com/53206](http://find.pcworld.com/53206)

## BounceBack Professional 7.0

CMS Products

PCW Rating **67** Fair

Pricely product works, but its poor interface and limited media support are real drawbacks.

List: \$70

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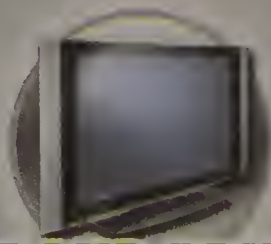
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# eMachines Offers Bare-Bones Media Center PC

## VALUE DESKTOP

**THE NEW EMACHINES T6532** Media Center PC is a no-frills system designed to handle everyday tasks. Although the \$900 T6532 has Windows XP Media Center Edition 2005 installed, it's not a home theater system: It lacks a remote control, a TV tuner, and digital audio and video ports.

### T6532

eMachines

PCW Rating **83 Very Good**

Inexpensive and expandable PC offers adequate performance for routine tasks, but its Media Center features are lacking.

List: \$900

find.pcworld.com/53186

Our shipping test unit's components included a 2.2-GHz AMD Athlon 64 3500+ CPU, 1GB of Samsung's DDR400 memory, a Toshiba multiformat double-layer DVD writer, and a fairly sizable 200GB 7200-rpm Western Digital hard drive. The system received a WorldBench 5 score of 91, putting it on a par with other desktops with similar prices. Advanced gaming is not its forte, though. For rendering graphics, it relies on an integrated GeForce 6100 graphics chip that siphons off up to 128MB of the PC's main memory. Thankfully, an available PCI Express slot will let



**THE EMACHINES T6532 PC** with the optional 17-inch LCD.

you install your own graphics card as your needs grow.

The minimalist MSI 7207 motherboard comes with two open PCI slots (a third slot is occupied by a 56-kbps modem) and provides both a parallel and a 10/100 ethernet

port, as well as four USB 2.0 ports. A fifth USB 2.0 port is located up front, along with a five-in-one media-card reader. The system comes bundled with a multimedia keyboard, a rudimentary mouse, and stereo speakers. The accompanying software package includes Microsoft Works 8 and Money 2006.

If you already own a monitor or want to purchase one elsewhere, you can buy the midtower for \$580 sans its 17-inch, 1280-by-1024 LCD display with 12ms response time. Either way, you'll get a very serviceable entry-level PC.

—Danny Allen

GWF001

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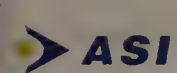
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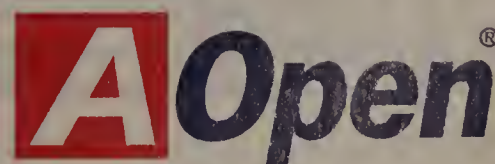
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# DVD Camcorder Takes High-Quality Video

## CAMCORDER

INSTEAD OF RELYING on a single CCD sensor, as most DVD camcorders do, Panasonic's \$800 **VDR-D300** carries three—one for each primary color. As a result, this feature-packed camcorder captures video with strong, accurate colors and—thanks to its well-

matched optics—fine detail.

The VDR-D300 uses 3-inch DVD minidisks for recording, and it can store between 30 and 70 minutes of video on each. You can capture still images, too, and store them on an SD Card at a resolution of up to 3.1 megapixels.

The 21-ounce camcorder fit comfortably in my hand, with the record and zoom buttons falling under my thumb and index finger. The joystick for navigating the menus and playing back content is conveniently located next to the record button, but the menu button is awkwardly situated



**PANASONIC'S VDR-D300 USES three color-specific CCD sensors to capture top-notch video.**

below the record button. The camera has extensive manual controls and an external microphone input—features rarely seen on DVD camcorders.

With its three CCD sensors the VDR-D300 excelled in my informal video tests, outperforming most DVD camcorders I've seen. But in low light the video's digital noise level

became somewhat distracting, and colors were pale.

The VDR-D300 is one of the first DVD camcorders to include optical image stabilization, and Panasonic's implementation provided a fairly effective buffer against my wavering hands.

The VDR-D300 is a bit pricey for a standard-definition camcorder, but its significant edge in image quality makes it a worthwhile investment.

—Richard Baguley

### Panasonic VDR-D300

Panasonic

PCW Rating **81** Very Good

The VDR-D300 captures high-quality video and is comfortable to use, though it is rather pricey.

Street: \$800

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| ADVANCED CAMERA                                                                                         |                                                                  | PCW Rating      | Performance                                                                          |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------|
| 1                                                                                                       | Canon PowerShot G6<br>Best \$579<br>find.pcworld.com/44872       | 86<br>Very Good | • Image quality: Very Good<br>• Battery life: Superior<br>• Overall design: Superior |
| Bottom line: The chunky G6 won best in show by performing well in our image-quality tests and providing |                                                                  |                 |                                                                                      |
| 2                                                                                                       | Olympus C-7070 Wide Zoom<br>Best \$450<br>find.pcworld.com/48091 | 86<br>Very Good | • Image quality: Superior<br>• Battery life: Superior<br>• Overall design: Good      |
| Bottom line: The C-7070 has been around a while, but it has winning image quality and a bargain price   |                                                                  |                 |                                                                                      |
| 3                                                                                                       | Canon PowerShot Pro1<br>\$699<br>find.pcworld.com/43164          | 81<br>Very Good | • Image quality: Very Good<br>• Battery life: Good<br>• Overall design: Good         |
| Bottom line: The Pro1's compact case makes it a pleasant camera to tote. Its battery life could be bet  |                                                                  |                 |                                                                                      |
|                                                                                                         | Canon PowerShot S215<br>\$499                                    | 79              | • Image quality: Very Good<br>• Battery life: Fair                                   |

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—Anush Yeghazarian, Senior Editor



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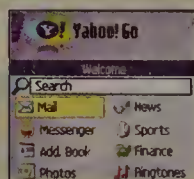
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#### Lenovo ThinkPad Z60t

Street: \$1999

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This light 14-inch wide-screen unit has a lot going for it, including good battery life and a great keyboard.

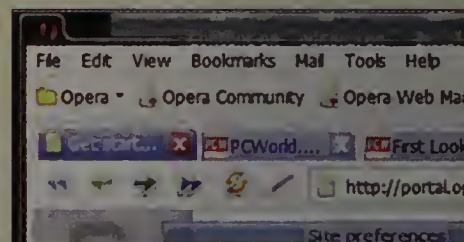


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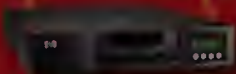
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YOU KNOW HOW many new-product pitches we get every year? Thousands, each declaring that the item is the best in its category. Though many of the companies making these claims are clearly delusional, some creations do stand as superbly designed top performers in their field—and you'll find all of them right here in our roster of the 100 best products of the year.

We rated each candidate on its design, performance, and specifications. We generally did not consider price in our evaluations; instead, we looked for products that represent the cream of the crop. But in compiling our list, some products were such great bargains that we couldn't ignore them. Of course, ranking laptops and Linux distributions in one place is tricky, but we used the same scoring system for each candidate and assessed them as consistently as we could.

This year we have also assigned each candidate an "impact" score, to recognize significant products that changed the technology landscape. And last, we ranked every World Class award winner by its final score, creating our list of the year's top 100 products.

We've also identified a few of the year's most noteworthy companies, including our pick for the loser of the year. And we've named the 25 worst products of all time—read about them on page 86. For more information on our list of World Class products, visit [find.pcworld.com/53158](http://find.pcworld.com/53158). ▶

# The 100 Best Products of the Year

EDITED BY ALAN STAFFORD

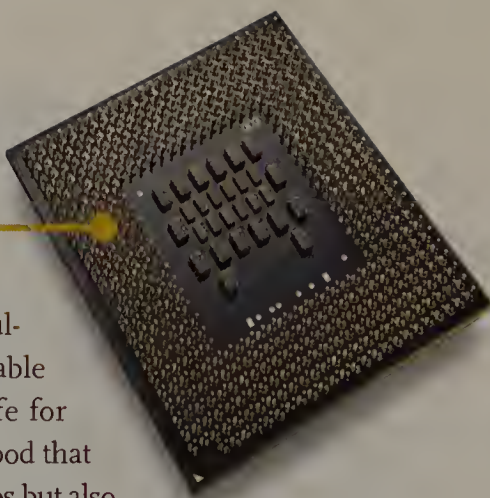
PHOTOGRAPHS BY MARC SIMON

# PRODUCT OF THE YEAR

## 1 INTEL CORE DUO Notebook/Desktop CPU

(\$450 and up) Intel's Core Duo provides multitasking power never before possible on a portable PC, and yet it supports astounding battery life for mobile devices. The Core Duo processor is so good that it's the CPU of choice not only for Windows laptops but also for Apple's Windows-capable laptop and for desktop Macs.

In today's mobile world, Core Duo gives Intel a leg up. AMD's Athlon 64 X2 Dual-Core (#2) is astoundingly good, but AMD hasn't yet captured that power in a mobile version; and its notebook processors aren't nearly as potent or as battery-efficient as Intel's.



## 5 SEAGATE 160GB PORTABLE HARD DRIVE Portable Hard Drive (\$380)

This hard drive was one of the first to use perpendicular magnetic recording (PMR) technology to pack more data into the same space. Another PMR-based Seagate hard drive, the Barracuda 7200.10, is the first desktop model to reach 750GB.

## 6 GOOGLE EARTH Satellite Imagery

(free) News channels use Google Earth to zoom in on Iraq; you can use it to focus on neighboring houses, or to explore the rest of the world from your desktop.

## 2 AMD ATHLON 64 X2 DUAL-CORE Desktop CPU (\$300 and up)

The most powerful desktop CPU ever made had a dual-core design first. If you need full power for increasingly demanding applications and you're tied to a desk, X2 is for you.

3 CRAIGSLIST.ORG Web Classifieds (mostly free) Now established in over 200 cities around the globe, this community classified-ad service puts the hurt on newspapers' overpriced classifieds. Sell a used piano or find a soul mate—gratis.

4 APPLE IPOD NANO Digital Audio Player (\$149 to \$249) You get up to 4GB of capacity in a tiny device that nevertheless has room for a crisp color display. It's scratch-prone, but it's still cool.

## 7 ADOBE PREMIERE ELEMENTS 2 Video Editor (\$100)

This strong, stable video editing application costs about one-eighth as much as Premiere Pro, Adobe's professional video editor. And it's so good you may not notice the difference.

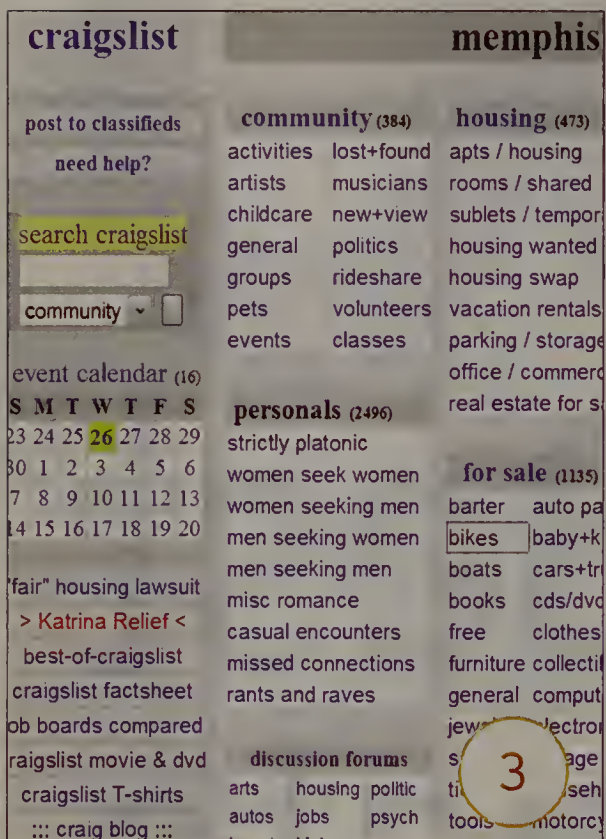
8 CANON EOS 30D Digital SLR Camera (\$1499) An 8.2-megapixel shooter, the EOS 30D makes many of the pro-level features from Canon's EOS 5D available at a friendlier price. It also earned extremely high marks in our image-quality tests.

### TOP COMPANY

WEB  
Company of the Year

YAHOO!

YAHOO has progressed far beyond being a mere search engine; it has emerged as the number-one online developer, on the strength of great revamps of Yahoo Mail (#30) and Yahoo Maps (#56), smart acquisitions of Web stars such as Del.icio.us (#93) and Flickr (#78), and development of the Yahoo 360 personalized Web spaces and of the Yahoo Music Engine (#73). Google may get a lot more attention, but Yahoo has been getting more things accomplished.



**9 YOUTUBE.COM Video-Sharing Site** (free)

Enjoy watching videos of every kind at this massive community of amateur videographers, and upload your own productions—at no cost.

**10 APPLE BOOT CAMP Mac Dual-Booter** (free)

Astonishingly, Apple has finally given its blessing to running Windows on a Mac, with this utility. Next up: running the Mac OS on a Windows box—or pigs flying through the sky.

**11 ADOBE PHOTOSHOP ELEMENTS 4 Image Editor** (\$100)

The latest version of Elements is the most elegant and powerful image-editing and -organizing application available for under \$600 (the price of Adobe's pro-level Photoshop CS2).

**12 MOZILLA FIREFOX 1.5 Web Browser** (free)

The 2005 product of the year continues to improve, with a better set of features and stronger security than Microsoft's Internet Explorer offers.

**13 ENGADGET.COM Gadget Blog** (free)

Even if Engadget decided to devote itself to game shows and golf, we'd probably still read it, just because the blog's writing is so snarky and entertaining.

**14 TOSHIBA HD-A1 HD DVD Player** (\$500)

The first high-definition optical disc player on the market, the HD-A1 will probably be the least expensive one for some time, too. Say good-bye to your \$40 DVD player and say hello to gorgeous high-definition movies on disc.

**15 TOSHIBA QOSMIO G35-AV600 Power Notebook Computer** (\$2548)

The jazzy Qosmio notebook line got even better this year. In fact, the G35-AV600 is the best Media Center desktop replacement we've ever seen. Toshiba recently released a version that comes with an HD DVD-ROM drive.



14

**16 NVIDIA GEFORCE 7600 GT Graphics Card Chip Set** (\$200)

Our list doesn't focus on outstanding values, but how could we overlook this powerful chip set? At \$200, it's a steal.

**17 GOOGLE Search Engine** (free)

Google's clean, fast-loading interface helps it remain the most-used and best-loved search engine on the Internet. Have you googled anything today?

**18 SONOS ZONEPLAYER 80 Digital Audio Streamer** (\$349)

The ZonePlayer offers the most elegant way to play digital audio throughout your home; this version omits its predecessor's amplifier, thereby reducing the price significantly.

18

**20**

**YAMAHA RX-V4600**

**Home-Theater Receiver** (\$1200) The RX-V4600 is the first receiver to deliver high-definition radio, which sounds better and comes in more clearly than regular old AM and FM signals. Too costly? Consider Boston Acoustics' tabletop Receptor Radio HD, which lists at just \$299. ▶

Online extras: [find.pcworld.com/53158](http://find.pcworld.com/53158).

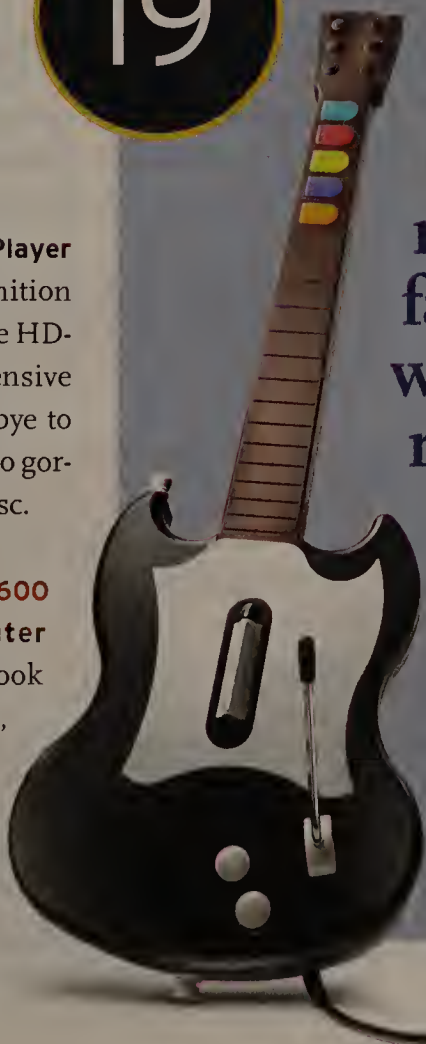
19

**VIDEO GAME**

**I love RedOctane's Guitar Hero because it lets me indulge in the air-guitar fantasies that began for me when I first heard "Crossroads."**

This Sony PlayStation 2 game (\$70) is completely addictive, and I've never run into a title with such wide appeal across age and gender lines. Everybody wants to go all Clapton with the included guitar once they see it in action. Well, okay, a few arhythmic types don't care, but they probably weren't air-guitaring "Infected" in the dorm back in the day, either.

—Ramon G. McLeod



**21 PIONEER BDR-101A Blu-ray Drive** (\$1000) The first Blu-ray drive comes not as a set-top player for high-definition movies, but as an internal PC drive for backing up massive amounts of data.

**22 ADOBE PHOTOSHOP CS2 Image Editor** (\$600) Anything that you want to do with a digital image, you can do with Photoshop CS2.

Not a pro? Avoid CS2's expense by opting for Adobe's Photoshop Elements (#11).

**23 CITRIX GOTOMYPC 5 Remote Access** (\$20 per month) Turn any Web-connected computer into a clone of your distant desktop, so you can gain access to programs, files, and networks. GoToMyPC is a bit pricey, but its speedy, secure, hassle-free approach is unbeatable.

**24 DEALNEWS.COM Online Bargain Tracker** (free) Many sites keep track of bargains for you, but Dealnews



does more than just provide you with a link. It'll even let you know whether today's deal is better than last week's.

**25 PALM GPS NAVIGATOR GPS** (\$250) A clear interface and reliable directions make this device a great add-on to your Palm PDA. Don't leave home without it; don't get lost with it.

**26 MIONET Remote Access** (\$7 per month) Two-way remote access permits you to tunnel into your work computer from home and vice versa—or

to securely share resources with others—without having to spend time worrying about firewalls.

**27 UBUNTU Linux Distribution** (free) The Breezy Badger release of Ubuntu has a desktop interface that Windows users may find reassuringly familiar. The new Dapper Drake version should be out as you read this.

**28 MOZILLA THUNDERBIRD 1.5 E-Mail Application** (free) Excellent junk-mail filtering and efficient address gathering make Thunderbird the best e-mail application for your electronic correspondence, regardless of price. Look for a beta of version 2 this summer.

**29 CANON PIXMA MP950 Multi-function Printer** (\$400) The MP950's magnificent 3.6-inch color LCD screen and whoa-Nelly resolution of 3200 by 6400 dots per inch are among the most impressive photo MFP specs available.

## HALL OF SHAME

# The 25 Worst Tech Products of All Time

SOME PRODUCTS ARE truly awful—born of bad ideas, victimized by comically bad implementation, or produced by companies trying to make a buck with scant regard for customers. We can laugh now, but when the products first appeared, we wanted to hunt down the responsible parties. In fact, we're still ticked; hence our list of the 25 Worst Tech Products of All Time.



**AMERICA ONLINE** (#1; 1989 to present) tops our list due to its infamously slow service, especially when it adopted an all-you-can-eat plan in the late 1990s.

You can also blame kludgy software, the "1000 hours free" CDs, and hardball tactics intended to discourage cancellations.

We also had problems with **Real Networks' RealPlayer** (#2, 1999); though we're happier with the most recent versions, its legacy of privacy intrusions and annoying pop-ups made it a clear pick. Synchronys sold hundreds of thousands of copies of its **SoftRAM** (#3, 1995) memory-doubling software before it was forced to admit that the product did nothing. **Windows Millennium Edition** (#4, 2000) was supposed to tide people over until Windows XP arrived—it did, by giving the users who had to

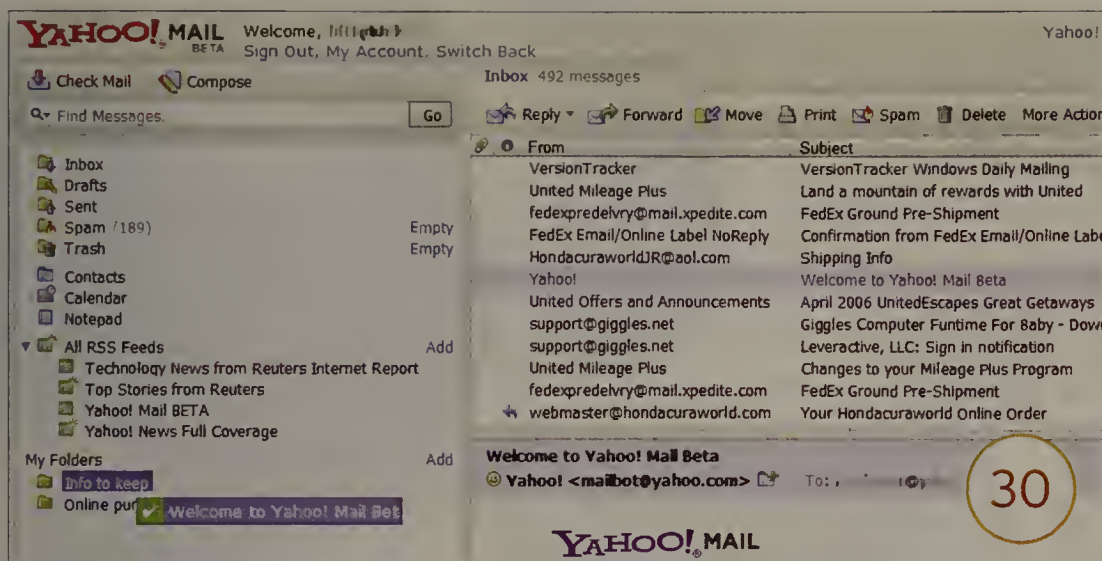
work around its bugs something to do. And **Sony's rootkit-infested CDs** (#5, 2005) crashed PCs and exposed them to security risks, all in a ham-handed attempt at copy protection.

## THE REST OF OUR LIST:

- 6 **Disney The Lion King CD-ROM**
- 7 **Microsoft Bob**
- 8 **Microsoft Internet Explorer 6**
- 9 **Pressplay and MusicNet**
- 10 **DBase IV**
- 11 **Priceline Groceries & Gas**
- 12 **PointCast**
- 13 **IBM PCjr**
- 14 **Gateway Anniversary PC**

- 15 **Iomega Zip Drive**
- 16 **Comet Cursor**
- 17 **Apple Macintosh Portable**
- 18 **IBM Deskstar 75GXP**
- 19 **OQO Model 1**
- 20 **CueCat**
- 21 **Eyetoop Wearable DVD Player**
- 22 **Apple Pippin**
- 23 **Free PCs**
- 24 **DigiScent**
- 25 **Sharp Actius RD3D**

For the stories behind all of these products, plus a list of additional dishonorable mentions, visit [find.pcworld.com/53460](http://find.pcworld.com/53460).



**30 YAHOO MAIL (BETA) Web-Based E-Mail** (free) This limited beta offering rates as the best Web mail client we've seen. Its Ajax-based interface convincingly imitates Outlook Express, without carrying over that program's clutter.

**31 TIVO Digital Video Recorder** (\$17 per month service and hardware) The company recently added neat new services such as weather and traffic updates, and podcasts. But we're still waiting for more capacity, faster networking, and widespread support for high definition.

**32 AVVENU Remote File Access** (free) Use this utility to set up your desktop PC as a simple file server that friends and family can access securely over the Internet. Avvenu is great for sharing digital photographs without going to the trouble of e-mailing them.

**33 BLOGGER Blogging Service** (free) It's not the most sophisticated blogging tool around, but it is free and

easy to use. It works with Google's Hello to support no-cost photo hosting and posting, and you can upload pictures from your camera phone to your Blogger blog.

**34 SONY CYBER-SHOT DSC-R1 Advanced Digital Camera** (\$900) This 10.3-megapixel camera is hardly a digital single-lens reflex model, but for many users it's as close to one as they'll ever need. And unlike most digital SLRs, the DSC-R1 has an LCD monitor that provides a live preview of your subject.

**35 APPLE MAC MINI Value Desktop Computer** (\$599 to \$799) Talk about dual personalities: This tiny, inexpensive, dual-core Apple box has the heart of an Intel machine and the soul of a Mac. It runs the Mac OS natively, and with Boot Camp it can run Windows XP, too.

**36 APPLE IPOD Digital Audio/Video Player** (\$299 to \$399) The video-enabled iPod is the only device equipped with a 2.5-inch screen that we would con-

sider watching *Desperate Housewives* episodes on. Not that we would actually watch *Desperate Housewives*, of course.

**37 LENOVO THINKPAD X60S Ultra-light Notebook** (\$1299 and up) Though this rock-solid 3-pound laptop doesn't carry a built-in optical drive, it has the best keyboard you'll find on an ultralight; and with the latest in Core Duo processors, it's a great performer, too.

**38 SIDESTEP.COM Travel Site** (free) Shopping for bargain flights can be a hassle. But SideStep.com collects air fares from multiple sources; you simply check off boxes to sift the results. It works for rental cars and hotel rooms, too.

**39 WINDOWS LIVE LOCAL Online Mapping** (free) Offering attractive maps, with bird's-eye views of ▶

Online extras: [find.pcworld.com/53158](http://find.pcworld.com/53158).

**TOP COMPANY**

**SOFTWARE**  
Company of the Year



★ IN THE 1990s, Adobe was known for its professional software; its dumbed-down consumer products didn't fare so well. Now, however, the company makes stellar \$100 apps that regular folks can use—for example, Premiere Elements 2 (#7) and Photoshop Elements 4 (#11)—while continuing to improve its pro applications. How can Adobe afford to sell an app with 90 percent of Photoshop's power for only 10 percent of its price? Volume, volume, volume.



some locations, Microsoft's service comes across as almost a hybrid of Google Earth and Yahoo Maps (that's a good thing).

## 40 CREATIVE SOUND BLASTER X-Fi Sound Card (\$129 to \$400)

Creative deserves credit for introducing high-end audio—including multi-channel DVD-Audio playback—to desktop PCs. The X-Fi has 7.1-channel output and dedicated RAM for storing sound samples, thus boosting game performance when heavy sound processing is needed.

## 41 ALIENWARE AURORA 7500 Power Desktop Computer (\$1799 and up)

You can configure this flashy PC with the best of everything, including AMD Athlon 64 X2, nVidia SLI graphics, and the Ageia PhysX processor. You'll pay dearly for it, all right, but this gaming rig is tops if you want to play.

42

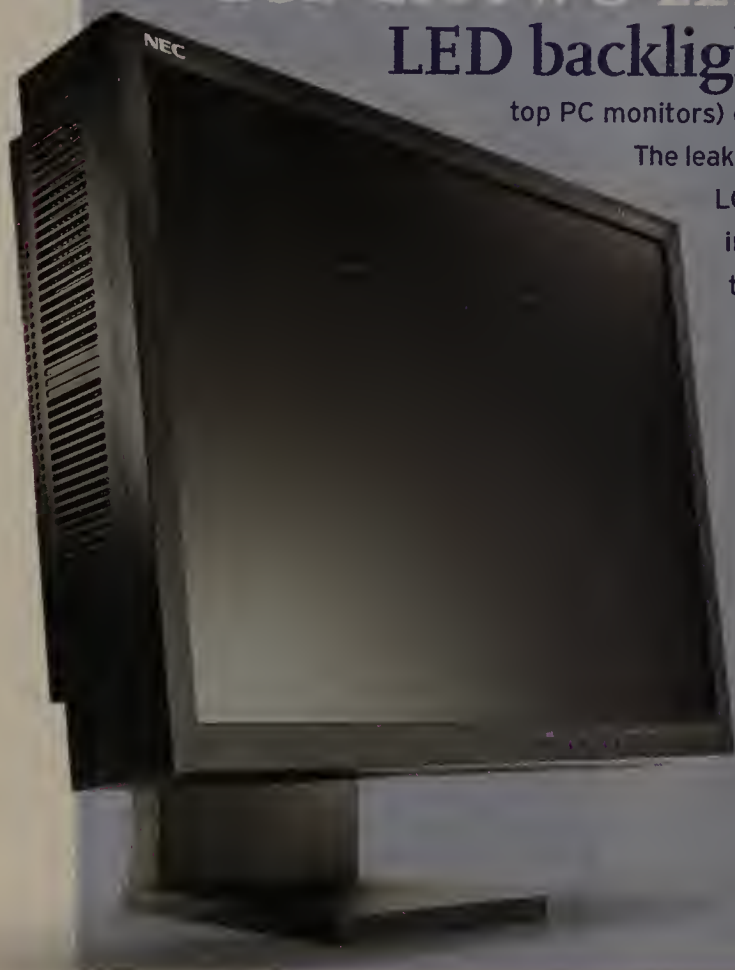
FLAT-PANEL MONITOR

## I love the NEC MultiSync LCD 2180WG-LED because its LED backlighting

(a first among desktop PC monitors) gives it crisp contrast and detail.

The leaky fluorescent backlights that most LCDs use add a faint glow, turning inky black to graphite gray. But on this 21.3-inch (\$6900) beauty, a black zipper pull stood out sharply against a black jacket pocket and nuanced whites and grays of a snowy mountain loomed in the background. The LED technology is sure to catch on.

—Laura Blackwell



46

## 43 APPLE ITUNES Digital Audio Software (free)

Not just a conduit for files between Apple's Music Store and an iPod, iTunes is great even if just for your desktop. It's compatible with both Macs and Windows PCs.



## 44 OLYMPUS EVOLT E-330 Digital SLR Camera (\$1100)

The E-330 shows you a live preview on its LCD—a first for a digital SLR—and it has a useful dust-removal feature (addressing a common bugaboo that afflicts such cameras).

## 45 ULTIMATE EARS SUPER.FI 5 PRO Earphones (\$250)

Comparable in sound quality to Shure's high-end E5C earphones, this set costs far less. And it does a nice job of sound isolation.



44

## 46 CREATIVE ZEN VISION:M Digital Audio/Video Player (\$300)

Exceptional screen quality, a responsive interface, and great battery life make this portable player a worthy alternative to an iPod, if you like to run wide of the herd.

## 47 GOOGLE DESKTOP Desktop Search (free)

Where did you put that file? To find it you could spend 10 minutes using Windows' search utility—or 10 seconds using Google Desktop.

## 48 OPERA 9 (BETA) Browser (free)

Opera deserves more exposure than it usually gets. Opera 9 is loaded with polished out-of-the-box features, such as useful ad and graphics blocking.

## 49 MITSUBISHI XD460U Projector (\$2100)

The XD460U ranked high for overall image quality in our tests, making it a great choice as a crossover projector for both conference-room and living-room use. It relies on a five-segment color wheel to achieve better imaging.

## 50 VONAGE VoIP Service (\$15 and up)

Its Internet phone packages aren't the cheapest, but Vonage has useful features such as call-forwarding during an outage and quality controls.

## 51 STUMBLEUPON Browser Add-On (free)

When you click a toolbar button in Firefox, it will transport you to a random site that fits your preferences. ►

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HP PROLIANT  
ML150 G2 SERVER

SAVE  
\$200

**\$977**

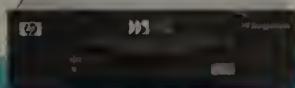
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- Dual processor capability
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**52 NOSCRIPT 1.1.4 Browser Add-On** (free) Block hazardous JavaScripts site-by-site in Firefox (the browser itself blocks either all JavaScripts or none).

**53 WEBROOT SPY SWEEPER 4.5 Antispyware** (\$30) Spy Sweeper catches more stuff than its competitors do, and it provides sound advice on which adware and spyware pieces to remove.

**54 MICROSOFT NATURAL ERGONOMIC KEYBOARD 4000 Keyboard** (\$60) An ergonomically optimized keyboard, the Ergonomic Keyboard 4000 swells upward in the middle so you can position your hands and wrists naturally.

**55 WESTERN DIGITAL RAPTOR X Hard Drive** (\$400) Though the Raptor X has just 150GB of storage space, it's the fastest hard drive we've tested. Its see-through window lets you watch it work (if your PC's case has a window, too).

**56 YAHOO MAPS (BETA) Online Mapping** (free) Yahoo Maps—the version still in beta—provides great directions, and allows you to determine the route you want to use by setting waypoints.

**57 INTUIT QUICKEN PREMIER 2006 Personal Finance** (\$80) Quicken has its annoyances—particularly its shameless marketing pitches—but the latest version lets you attach electronic images of canceled checks or statements.

**58 ATI RADEON X1900 XTX Graphics Board** (\$600) Cards based on ATI's X1900 XTX chip and on nVidia's GeForce 7900 GTX chip (#92) compete for the fastest gaming performance. We think the ATI board delivers slightly better image quality, hence its higher ranking.

**59 JAVACOOOL EULALYZER PERSONAL 1.1 License Analyzer** (free) We're always urging you to read the end-user license agreements that pop up when you install software—but who has the time or the legal background to read and understand end-user license agreements? Just copy and paste EULAs into EULalyzer, and it will tell you whether you're getting into something dubious.

**60 EIZO FLEXSCAN S2410W 24-Inch Wide-Screen LCD Monitor** (\$1700) This is the first 24-inch display to take color as seriously as a graphics professional does. Its flat, touch-sensitive electrostatic switches are much more comfortable to use than buttons.

## TOP COMPANY

HARDWARE  
Company of the Year

★ WITH A HUGE R&D budget and a single-minded taskmaster running the show, **Apple** once again introduced products that made everyone else look bad. iPods (#36) that play video have created a new market for reruns, Core Duo-based Macs (#35) have expanded the market for Intel chips, and Boot Camp software (#10) has opened the door to running Windows on the Mac hardware. We continue to hope that some of the Cupertino crowd's design ideas will trickle down to the rest of the tech industry.

**61 KOSMIX.COM Search Engine** (free) Kosmix categorizes search results into major content areas of health, travel, and politics—a valuable feature, though you'll obtain fewer results from Kosmix than you would from Google or Yahoo.

**62 T-MOBILE SDA Cellular Phone** (\$300) This Windows Mobile-based handset supports cellular, Wi-Fi, and Bluetooth wireless technologies (but you can't use it as a phone over Wi-Fi). Thanks to its impressive battery life, you can browse the Web with it all day long.

**63 ASUS A8N32-SLI DELUXE Motherboard** (\$200) This motherboard packs every feature you could want, including nVidia SLI graphics support, RAID support, six SATA ports, and plenty of options for overclocking. ►

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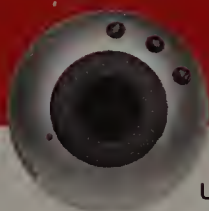
58

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**64 DELL ULTRASHARP 3007WFP 30-Inch Wide-Screen LCD Monitor** (\$2200)

Seeing this humongous, high-resolution LCD after spending hours in front of a 17- or 19-inch model is a bit like turning a corner and walking into a billboard.

**65 MEEBO (ALPHA) Instant Messaging** (free)

When you're away from your own PC, you can still connect. Use this utility (still in alpha) in an Internet café to access AIM, GTalk, ICQ, Jabber, MSN, or Yahoo buddies by browser.

**66 COREL PAINTER IX.5 Graphics Software** (\$375)

Corel's painting program does a fine job of mimicking real paint and canvas, watercolor and paper, and charcoal and paper. Paint runs and bleeds just like the real stuff does. A recent upgrade introduces a rubber stamp and new photo painting capabilities.

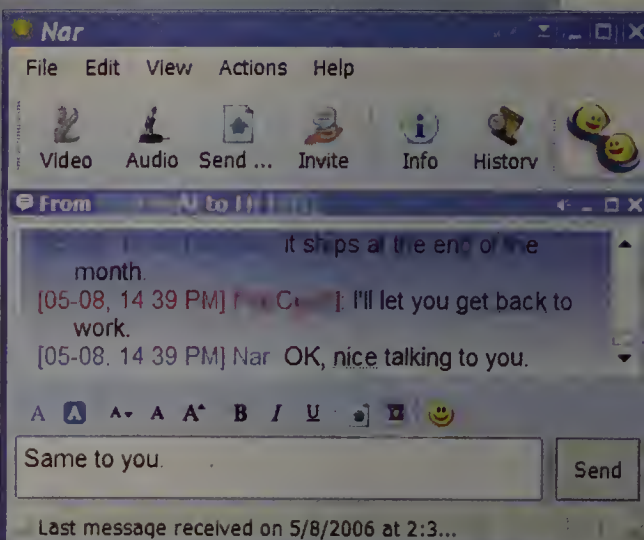
**67 SAMSUNG LN-S3251D LCD TV** (\$1799)

Among 32-inch television sets that we tested recently, the LN-S3251D won by a significant margin. It's very bright, so colors really pop from the screen, and it has a well-designed stand that swivels fluidly. It's one of the best televisions we've seen, regardless of type.

**68****INSTANT MESSAGING CLIENT**

**I love Trillian because it means I don't have to decide which IM client to adopt.**

Cerulean Studios Trillian 3.1 (free) works with nearly all of them. Its interface is beautiful, especially compared with AIM—hoo boy, that thing's ugly. I have Trillian set up to log my conversations, so when I forget something I said, I can look it up easily. I also like being able to set up alerts for when people are online, and to issue a command from my laptop that shuts down the program on my desktop. A new version, called Astra, should be released later this year.



—Alan Stafford

**69 RHAPSODY Online Music** (free to \$10 per month)

After experiencing a rocky relaunch, the new Rhapsody service looks good. Now you can access it without desktop software (though you may want to use the client, since it works as your streaming service and plays songs from your MP3 library).

**70 IN2M MVELOPES PERSONAL 3 Online Budgeting** (\$8 per month with two-year plan)

When you put Mvelopes on the case, you may be surprised to learn how much you spend on Diet Coke and Doritos (you aren't under any ob- ▶

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**64****67**

PORTRAIT: RICK RIZNER

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ligation to change your habits, of course, but it's still nice to know). Recent updates make Mvelopes easier to use than ever.

**71 CANON PIXMA IP6600D Photo Printer** (\$180) Who needs a photo mart when you can get prints this good at home? For best results you have to use Canon's special (and expensive) paper.

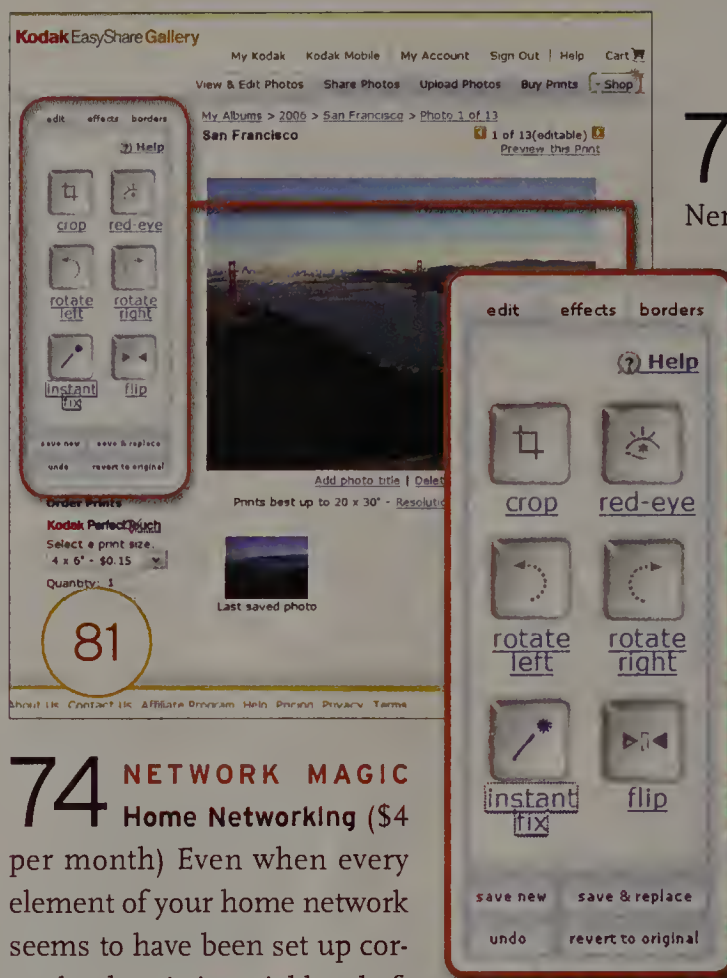
**72 EMC RETROSPECT PROFESSIONAL 7.5 Backup Software** (\$100) This watch-your-back application carries two unique client apps so you can back up as many as three PCs; competing programs make you buy extra licenses.

**73 YAHOO MUSIC ENGINE 1.1 Digital Audio Site/Software** (free to \$10 per month) Subscribe to Yahoo Music Engine and you can listen to anything in the service's library. We like how it integrates with Yahoo Messenger so that you and your friends can share playlists; you can share music over a local network, too.

#### LOSER COMPANY

## WORST Company of the Year SONY

WE GET THE FEELING that Sony doesn't trust people. Many of its ills over the past year involve copy protection: First was the fiasco with its music CDs, which installed rootkits on PCs to hide digital rights management spyware, thereby exposing the computers to viruses. Then came delays in the delivery of Blu-ray drives due to difficulties implementing a second copy protection scheme. And as a result of the Blu-ray problems, Sony had to push back its PlayStation 3 console to November. All this from the company that virtually pioneered copying with the Betamax.



**74 NETWORK MAGIC Home Networking** (\$4 per month) Even when every element of your home network seems to have been set up correctly, there's invariably a baffling snag. Network Magic helps you configure your network with minimal hassle.

**75 Z-WAVE Home Automation** (\$130 for starter kit) Of the leading home-automation technologies, Z-Wave combines performance, reliability, and product selection most effectively.

**76 BITDEFENDER 9 STANDARD Antivirus** (\$30) The Best Buy winner from our most recent roundup of antivirus software, BitDefender 9 provides top-of-the-line protection against a rogues' gallery of electronic miscreants.

**77 SAGE SOFTWARE SIMPLY ACCOUNTING BASIC 13 Small-Business Finance** (\$50) If you're still trying to manage your business finances in Excel or Quicken, you owe it to yourself to invest \$50 in this entry-level small-business accounting package instead.

**78 FLICKR Photo-Sharing Site** (free to \$25 per year) Yet another Yahoo property, Flickr wins out as the best community-based photo-sharing site. Neatest feature: You can tag photos—yours or others'—with keywords and then browse pictures based on those keywords.

**79 NERO 7 ULTRA EDITION CD/DVD Burning** (\$100)

Nero 7 Ultra Edition lets you copy data, edit high-def video, encode 7.1-channel audio, play with a dance-music synthesizer, and lots more.

**80 NUANCE DRAGON NATURALLY-SPEAKING 8 Voice Recognition** (\$175) The latest Dragon is probably the best voice-recognition software ever, though it won't make keyboards obsolete. It works best for dictating text (especially if you haven't completed your Mavis Beacon Teaches Typing lessons).

**81 KODAK EASYSHARE GALLERY Photo Printing Service** (\$0.15 for each 4-by-6 print) Though its prices are among the highest of the online printers, Kodak made the best prints in our tests.

**82 EVDO Wireless Broadband** (\$45 to \$80 per month) What's better than Wi-Fi? Wi-Fi speed without the need to be near an access point. Evolution-Data Optimized service, from Verizon Wireless or Sprint, still has some performance issues, but it's a sign of things to come.

**83 LACIE D2 HARD DRIVE SERIAL ATA External Hard Drive** (\$400) In our tests, this 400GB drive with an External SATA-150 interface and a 7200-rpm mechanism outperformed every USB 2.0 or FireWire 400 drive we evaluated.

**84 HP MD5880N DLP TV** (\$4000) A 58-inch Digital Light Projection set, the well-designed Md5880n was the highest-scoring television in our tests.

**85 QNEXT 2 P-to-P Communications** (free) Not just for instant messaging, this Java-based suite sup- ▶

Online extras: [find.pcworld.com/53158](http://find.pcworld.com/53158).



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ports IM, videoconferencing, VoIP, file sharing, music and photo sharing, and remote PC access (it won't wash your car or make you dinner, though).

## 86 **SALLING CLICKER 3** Presentation Remote (\$24)

Use this inexpensive utility to turn a Bluetooth-enabled mobile phone into a remote control for changing presentation slides or switching songs on a media player.

## 87 **EPSON PERFECTION V700 PHOTO** Scanner

(\$550) The flatbed V700 has a maximum optical resolution of 6400 dpi, a significant advance over the 4800-dpi competition.

## 88 **MINDJET MINDMANAGER PRO 6** Data-Organizing Software

(\$349) For people who swear by "mind mapping"—using software to organize and manage information through flow charting—this app is the best we've seen.

## 89 **MICROSOFT XBOX 360** Game Console (\$400 and up)

With a pair of 3.2-GHz CPUs, half a gig of RAM, and built-in wireless, the Xbox 360 can run games in high def.



87

impressive social experiment, Del.icio.us invites you to share your favorite links with friends and larger communities.

## 94 **SERIOUS MAGIC OVATION** PowerPoint Add-On (\$100)

Import PowerPoint slides into this tool and add fancy video effects to make your otherwise boring sales presentations the talk of the office.

## 95 **WORDPRESS** Blogging Tool (free)

Two practical controls make this product stand out: Photos and art are resizable on the fly inside the editing space, and dividing a blog entry into two parts is simple.

## 96 **AMAZON A9 TOOLBAR** Search Toolbar (free)

Share bookmarks among multiple computers, and store notes about sites (if you have opened an Amazon.com account). Take that, Google.

## 97 **THINKFREE OFFICE ONLINE** Online Office Suite (free)

Think-Free gives you Office-compatible word processing, spreadsheet, and presentation applications in a browser window.

## 98 **GREASEMONKEY** Firefox Extension (free)

Now here's a mechanic you can trust. Greasemonkey allows you to add community-built scripts to the Firefox browser. Hundreds of useful scripts are downloadable for free.

## 99 **NEWSGATOR FEEDDEMON 2** RSS Reader (\$30)

With Feed-Demon's options, you're just a step shy of having news injected intravenously.

## 100 **SYSINTERNALS** ROOTKIT REVEALER

1.7 Antispyware (free) This free tool can't fix your rootkit-infested Sony CDs, but it can determine whether your PC has been compromised by them. ■

## 91 **FUJIFILM FINEPIX E900** Point-and-Shoot Digital Camera (\$410)

Fujifilm's 9-megapixel point-and-shoot captured very sharp images with low distortion, earning top scores in our tests.

## 92 **NVIDIA GEFORCE 7900 GTX** GPU (\$549)

Graphics cards that use this power-hungry processor are so expensive that you'll need to sign on for a second paper route to pay for it. But the payoff is excellent gaming performance.

## 93 **DEL.ICIO.US** Social Networking

(free) Both an excellent way to store and categorize bookmarks and an

90

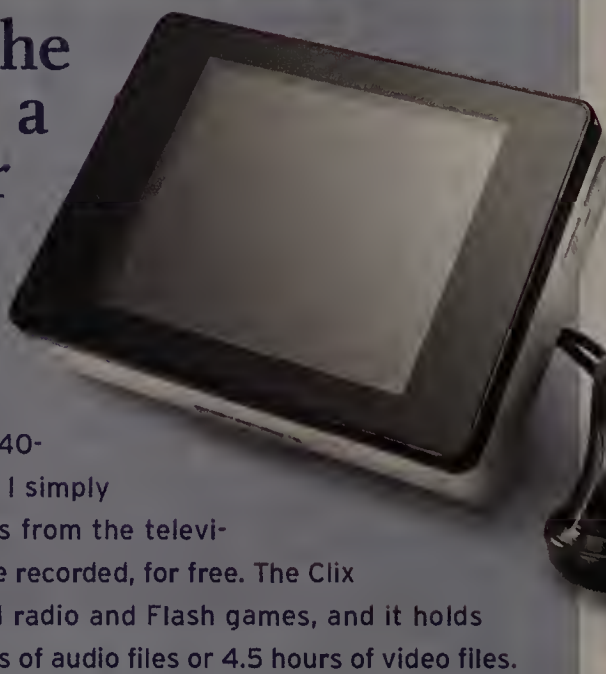
DIGITAL AUDIO/VIDEO PLAYER

**I love the iRiver Clix, a 2GB successor to the 1GB U10, because**

it's smaller and cuter than the video-enabled iPod despite packing a similar-size (2.2-

inch, 320-by-240-pixel) display. I simply transcode files from the television shows I've recorded, for free. The Clix (\$199) has FM radio and Flash games, and it holds about 28 hours of audio files or 4.5 hours of video files.

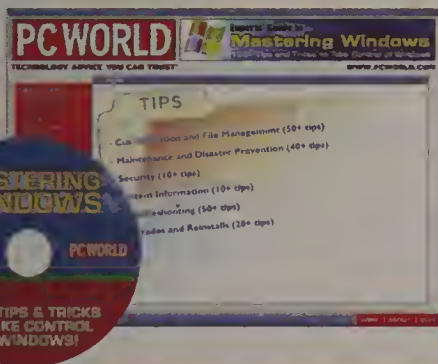
—Danny Allen



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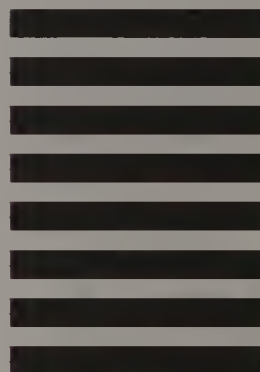
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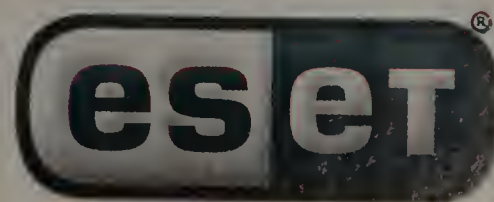
ThreatSense uses advanced heuristics to protect against evolving threats without the need for additional spyware and adware solutions. And the small footprint doesn't mean you sacrifice memory, performance or detection.

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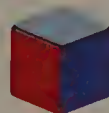
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Suites of antivirus, antispyware, and firewall software can provide convenient, solid protection against today's worst threats. Our tests of ten contenders show who's got your back.

# All-in-One SECURITY

| BY NARASU REBBAPRAGADA |

IT TAKES A multifaceted strategy to fight today's complex range of security threats, which can no longer be neatly separated into distinct categories. Worms may ride in with spam, and spyware apps may unleash Trojan horses, so your PC requires multiple kinds of security software to stay safe.

You can build your system's defenses with stand-alone antivirus, antispyware, and firewall products, or you can get everything in an all-in-one suite. Opting for three or more separate security apps lets you pick the best of breed in each category, but running them

can be a complicated—and expensive—task. Security suites offer convenience and affordability; their individual components, configurable from one interface, are designed to interoperate smoothly. That said, suites require a certain degree of trust in that you're depending on one company to protect your computer and data completely. Since running multiple antivirus engines and firewalls can invite major system problems, people who want a suite should buy one and stick to it. (Turn to "Ten Tips for Running Security Suites" on page 110 for more.) ►



## SUITE CONTENDERS

TO FIND OUT if today's suites are worth the commitment, we chose ten products—a combination of new and established offerings—to run through a gauntlet of performance and usability tests (more de-

tails appear at [find.pcworld.com/53488](http://find.pcworld.com/53488)).

We looked at four factors: performance (malware detection and speed), features, design (ease of use), and price. The packages ranged from \$40 to \$80 for first-time software purchases with a year of updates; subsequently you'll have to pay a renewal

fee (\$25 to \$60 per year). In regard to performance, remember that security software is only as good as its last update, which can contain tweaks to its engine as well as new malware signatures. As for features, the products were relatively consistent, though some had useful add-ons.

## TEST REPORT

### TEST Center

## TOP SUITES ARE WELL ROUNDED AND FEATURE RICH

THOUGH IT WASN'T the top performer, Symantec's suite put together the best blend of features in an easy-to-use package.

|    | SECURITY SUITE <sup>1</sup>                                                                                                                         | PCW Rating             | Performance score | ANTIVIRUS AND ANTISPYWARE DETECTION |                 |                                       | Adware detection | Malware cleanup | FIREWALL                            |                                      | SPEED |  |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------|-------------------------------------|-----------------|---------------------------------------|------------------|-----------------|-------------------------------------|--------------------------------------|-------|--|
|    |                                                                                                                                                     |                        |                   | WildList viruses                    | AV-Test threats | Unidentified malware (via heuristics) |                  |                 | Inside attacks blocked <sup>2</sup> | Outside attacks blocked <sup>2</sup> |       |  |
| 1  | Symantec Norton Internet Security 2006<br><b>Best BUY</b> \$70 (\$35 renewal)<br><a href="http://find.pcworld.com/53146">find.pcworld.com/53146</a> | <b>84</b><br>Very Good | Very Good         | 100%                                | 98%             | 65%                                   | 82%              | 54%             | 100%                                | 100%                                 | 13%   |  |
| 2  | McAfee Internet Security Suite 2006<br>\$70 (\$35 renewal)<br><a href="http://find.pcworld.com/53144">find.pcworld.com/53144</a>                    | <b>83</b><br>Very Good | Superior          | 100%                                | 97%             | 74%                                   | 96%              | 88%             | 90%                                 | 100%                                 | 6%    |  |
| 3  | Panda Platinum 2006 Internet Security<br>\$80 (\$60 renewal)<br><a href="http://find.pcworld.com/53150">find.pcworld.com/53150</a>                  | <b>81</b><br>Very Good | Very Good         | 100%                                | 94%             | 91%                                   | 77%              | 38%             | 90%                                 | 100%                                 | 14%   |  |
| 4  | F-Secure Internet Security 2006<br>\$60 (\$42 renewal)<br><a href="http://find.pcworld.com/53142">find.pcworld.com/53142</a>                        | <b>79</b><br>Good      | Good              | 100%                                | 99%             | 76%                                   | 50%              | 31%             | 80%                                 | 100%                                 | 3%    |  |
| 5  | Trend Micro PC-cillin Internet Security 2006<br>\$50 (\$25 renewal)<br><a href="http://find.pcworld.com/53152">find.pcworld.com/53152</a>           | <b>79</b><br>Good      | Good              | 100%                                | 67%             | 67%                                   | 60%              | 58%             | 80%                                 | 50%                                  | 4%    |  |
| 6  | Zone Labs ZoneAlarm Internet Security Suite<br>\$70 (\$25 renewal)<br><a href="http://find.pcworld.com/53154">find.pcworld.com/53154</a>            | <b>77</b><br>Good      | Good              | 100%                                | 35%             | 48%                                   | 46%              | 79%             | 100%                                | 100%                                 | 3%    |  |
| 7  | Microsoft Windows Live OneCare<br>\$50 (\$50 renewal)<br><a href="http://find.pcworld.com/53148">find.pcworld.com/53148</a>                         | <b>76</b><br>Good      | Good              | 99%                                 | 69%             | 41%                                   | 64%              | 88%             | 100%                                | 50%                                  | 1%    |  |
| 8  | CA eTrust Internet Security Suite 2006<br>\$70 (\$40 renewal)<br><a href="http://find.pcworld.com/53140">find.pcworld.com/53140</a>                 | <b>75</b><br>Good      | Good              | 100%                                | 46%             | 59%                                   | 65%              | 88%             | 100%                                | 100%                                 | 3%    |  |
| 9  | BitDefender 9 Internet Security<br>\$65 (\$49 renewal)<br><a href="http://find.pcworld.com/53138">find.pcworld.com/53138</a>                        | <b>73</b><br>Good      | Good              | 100%                                | 96%             | 74%                                   | 60%              | 42%             | 60%                                 | 75%                                  | 11%   |  |
| 10 | Aluria Security Center<br>\$40 (\$28 renewal)<br><a href="http://find.pcworld.com/53136">find.pcworld.com/53136</a>                                 | <b>68</b><br>Fair      | Fair              | 100%                                | 72%             | 52%                                   | 89%              | 33%             | 30%                                 | 75%                                  | 160%  |  |

FOOTNOTES: <sup>1</sup>Prices as of 4/15/06. <sup>2</sup>Test conducted at default settings. <sup>3</sup>Percentage slowdown of WorldBench 5 Microsoft Windows Media Encoder application script caused by suite. **CHART NOTE:** For

To assess design, we looked at how simple the suites were to install, how easy their features were to find, and how well the software explained its options. We also evaluated malware warning alerts to determine whether the dialog boxes provided enough information to let you

make an educated decision about what to do next. Above all, we looked at performance, determined by how well each suite detected and blocked incoming threats as well as by how effectively it cleaned up malware already on a system.

We contracted with German research company AV-Test.org ([find.pcworld.com/51168](http://find.pcworld.com/51168)), which threw more than 174,000 worms, viruses, back-door programs, bots (aka zombies), spyware components, Trojan horses, and adware samples at each suite. In addition, AV-Test.org analyzed each suite's heuristics (its ability to detect as-yet-unidentified malware), as well as each firewall. We

also checked how fast each could perform a full security sweep of our test system and how much running it slowed down our apps in our WorldBench 5 tests.

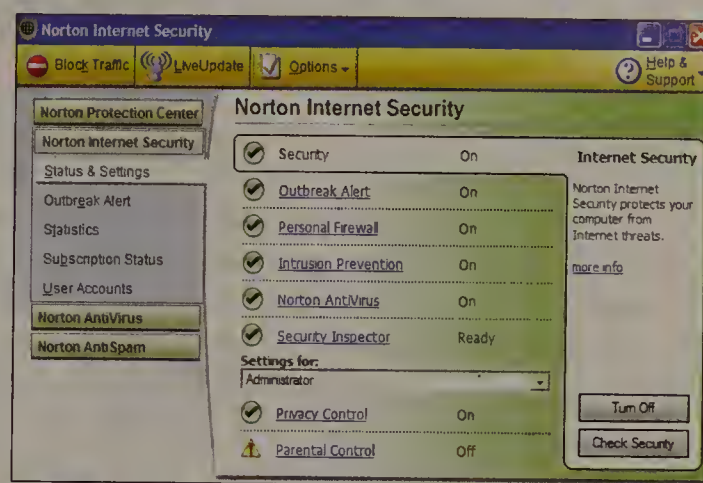
Though our testing was extensive, we didn't fully evaluate behavior-based detection. The Microsoft, Panda, and Zone Labs suites offer this technology, which can identify a new threat by the actions it takes (for example, if a program tries to make suspicious Registry changes). This feature can offer a viable supplement to signature-based detection, but testing it thoroughly proved too unwieldy for this review.

## BEST PROTECTORS

ALL OF THE suites we tested proved good at something, but none excelled at everything. Our Best Buy, Symantec's suite, performed consistently across our tests. Highlights include a second-place ranking in detecting AV-Test.org's collection of back doors, bots, and Trojan horses, and a perfect firewall score. It provides instant-messaging protection, parental controls, and a data-privacy feature. Its interface could be more streamlined,

though, and its telephone tech support charges a whopping \$30 per incident.

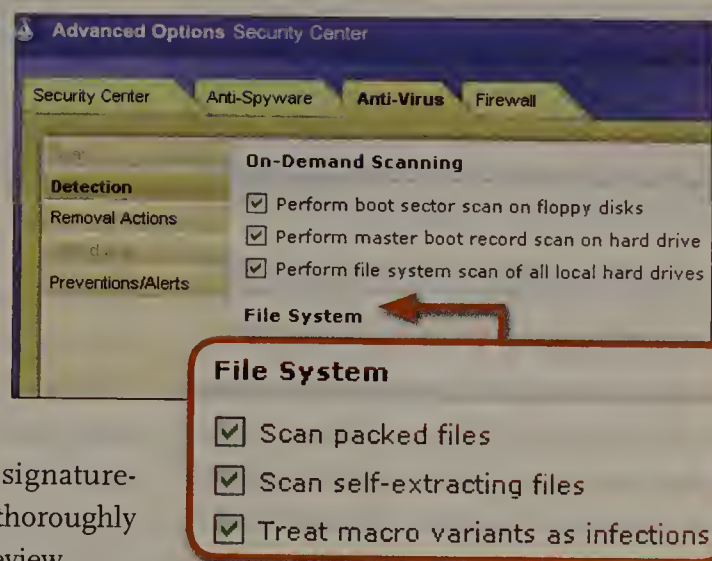
The top performer in our malware tests was McAfee's suite, which also has extra features such as instant-messaging protection and an antiphishing plug-in for



**Best Buy** SYMANTEC'S SUITE, OUR Best Buy, performs well, has a lot of features, and is easy to use.

Internet Explorer. However, the suite suffers from a bad installation routine and pricey phone support (\$3 per minute).

Zone Labs' suite, which integrates an



ALURIA'S SUITE CAN scan packed files but not compressed executable programs.

older version of CA's lackluster eTrust antivirus engine, ranked seventh in our performance tests, despite its great firewall. Zone Labs plans to update its CA engine in June. Regardless, the suite still managed sixth place overall, as it's packed with features and easy to use.

The poor performance of the BitDefender suite surprised us. Slow speed, a mediocre adware scanner, and a less- ▶

|  | Design score | Bottom line                                                                                                                                                       |
|--|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Good         | Symantec's suite produced top-tier malware detection and cleanup test scores, but it would benefit from a more streamlined interface and fewer pop-up alerts.     |
|  | Fair         | The excellent malware detection and cleanup scores of McAfee's full-featured suite make up for its terrible installation routine.                                 |
|  | Good         | Panda has superior heuristics, a top-notch firewall, and speedy on-demand scanning, but its interface needs better organization.                                  |
|  | Very Good    | F-Secure's five scanning engines—including one for rootkits—produced excellent malware detection scores but the slowest scan speed.                               |
|  | Very Good    | Trend Micro's interface, speed, and features (including an antiphishing toolbar) were better than its malware detection scores.                                   |
|  | Very Good    | Zone Labs' feature-rich suite bundles a superior firewall with an older version of CA's antivirus scanner, which unfortunately did not perform well in our tests. |
|  | Good         | Microsoft's new subscription-based PC tune-up and security package performed well in tests but isn't as full featured or as highly configurable as other suites.  |
|  | Good         | The least integrated security suite we tested, CA's product combines Zone Labs' excellent firewall with lackluster antivirus and anti-spyware protection.         |
|  | Good         | Despite strong antivirus protection, BitDefender has an underperforming adware scanner and cryptic firewall alerts. Scan speed was slow.                          |
|  | Good         | The slow Aluria suite handled adware well, but it failed to catch boot viruses, which—while negligible in number—should have been easy to detect.                 |

testing details, see [find.pcworld.com/53488](http://find.pcworld.com/53488).

# McAfee and F-Secure did the **best job** of finding **viruses** and **spyware**.

than-impressive firewall contributed to the suite's ninth-place overall ranking.

Newcomer Aluria's inexpensive but bare-bones suite placed last. The software can scan your whole drive, but it lacks the ability to scan a user-defined set of files and folders. It also can't look for malware embedded within packed executable files such as ASPack or UPX. (Worm authors hide malware within packed executables, and sometimes, to avoid detection by security software, they take existing malware and repackage it.) In addition, at its default settings Aluria's firewall is too permeable, and it's a resource hog.

## VIRUSES, SPYWARE, AND ADWARE

MCAFEE AND F-SECURE'S packages did the best job of finding what's loosely classified as viruses and spyware, each scoring among the top three in relevant tests. Panda's package was the best in heuristics tests. The McAfee and Aluria suites surpassed the group in detecting adware.

A note: *Spyware* has become the catch-all term for keyloggers, adware, back doors, and other Web-borne predators—many of which are not new and not classified as spyware by researchers. In our tests, we differentiate between spyware and adware. The really nasty spyware is

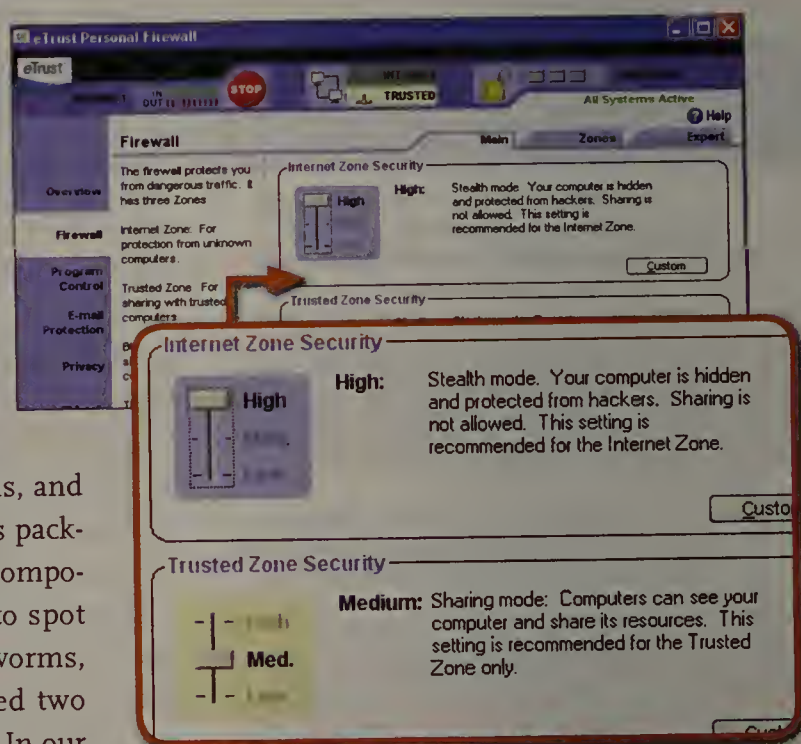
included in AV-Test.org's collection of bots, Trojan horses, and back doors; a suite's detection rate for the last of these is a good indicator of how well it works against spyware. Detection of adware—software that can bring unwanted ads and collect data on your Web surfing habits—is a separate test.

Most of the suites were 100 percent successful at detecting the 1822 components of boot, file, macro, and script malware from the January 2006 WildList, a public list of widespread viruses, worms, and bots. Surprisingly, Aluria's package missed all boot-virus components, Microsoft's failed to spot 14 components of seven worms, and Trend Micro's missed two components of one worm. In our WildList tests, boot-virus components were statistically insignificant, which explains Aluria's 100 percent score in our chart. Nevertheless, your security software should detect all WildList threats.

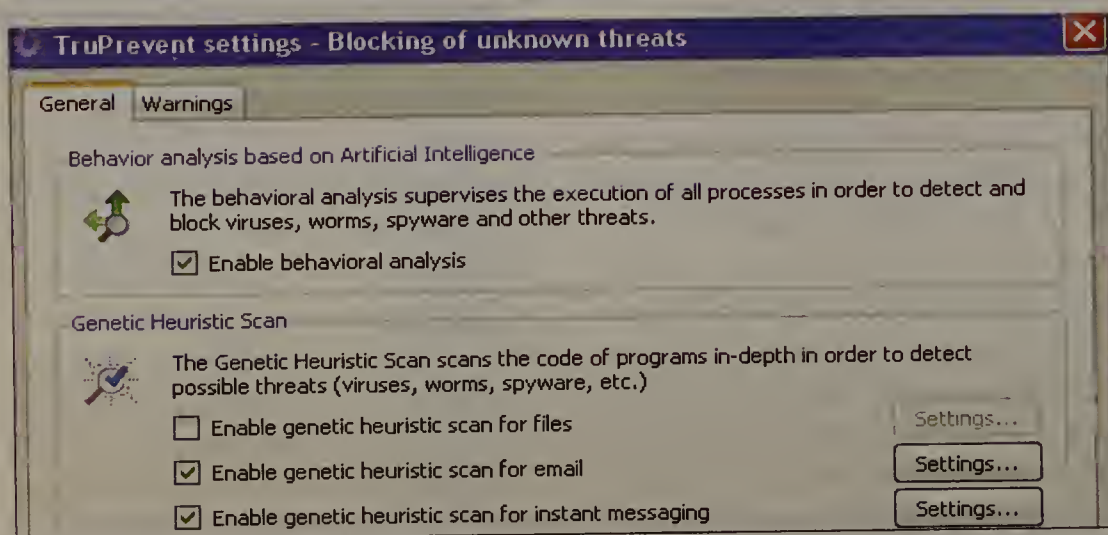
On AV-Test.org's collection of 168,523 back doors, bots, and Trojan horses, results were mixed. CA's suite detected only 37 percent of back doors, 72 percent

of bots, and 39 percent of Trojan horses. Zone Labs' suite scored worse, spotting 30 percent of back doors, 49 percent of bots, and 31 percent of Trojan horses. F-Secure's suite was the strongest, catching more than 98 percent of these threats.

In adware tests McAfee's suite scored best, catching 96 percent of 713 actively running components. Aluria, with its background in fighting adware and spyware, ranked second with an 89 percent



THE CA ETRUST security suite integrates Zone Labs' sophisticated firewall.



PANDA SUPPLEMENTS ITS top-notch heuristics with behavior-based malware detection.

detection rate. Once again, though, the Zone Labs package performed worst, detecting only 46 percent of adware.

To assess heuristics, AV-Test.org evaluated how well the suites could proactively spot January 2006 WildList malware without the benefit of January (and newer) signature updates. Panda's suite dominated, detecting 91 percent of the files. F-Secure's was a distant second, catching 76 percent. At 41 percent, the Microsoft app's heuristics were the worst; Zone Labs' suite was second from the bottom. We should note, however, that the behavior-based features of these suites (also present in Panda's product) might make up for their poor showing, thereby improving their overall results. For example, AV-Test.org found that Panda TruPrevent will block up to 90 percent of net- ►

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work and e-mail worms and that Zone Labs' OSFirewall will stop up to 70 percent of network and e-mail worms.

We also tested the suites' detection of malware within compressed archives such as .zip, .rar, and .cab files, and within runtime compressed program files like ASPack and UPX. Most of them could look in files that were compressed once, multiple times, or as a self-extracting archive, but they were less uniformly able to penetrate runtime compressed program files. The F-Secure, McAfee, and Bit-Defender suites did best; Aluria's and Zone Labs' brought up the rear. Aluria

says that the ability to unpack a compressed executable will be included in its suite's next version, due later this year as a free upgrade for current users. Zone Labs says that it is working with CA to improve its product's detection of packed malware and that its OSFirewall detects and blocks both known and unknown malware as soon as the packed file opens.

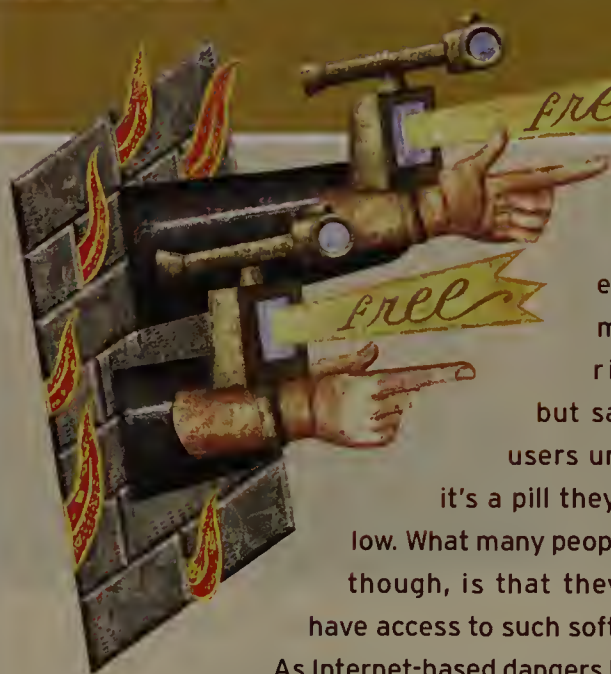
In a perfect world, security software would detect and block all threats at first sight. In reality, bad stuff slips through the cracks. We tested the packages' ability to clean up files, Registry entries, and Hosts-file changes made by ten WildList

worms. McAfee's package cleaned the most malware files and system changes, scrubbing everything except a variant of Mytob that targeted the security software itself. Microsoft's product also did well, purging all worms and remnants except Registry changes made by Netsky.BA and Mytob.AR. F-Secure's suite proved better at finding malware than at removing it, cleaning only five of the ten worm files.

### FIREWALLS THAT FIGHT

WHILE THE LINE between antivirus and antispyware protection has blurred recently, software firewalls are still dis- ►

### SUITE DEALS



## Let Your ISP Provide YOUR SECURITY SUITE

NOBODY genuinely enjoys spending money on security software,

but savvy computer users understand that it's a pill they have to swallow. What many people don't realize, though, is that they may already have access to such software—for free.

As Internet-based dangers have increased, large Internet service providers such as America Online, EarthLink, and PeoplePC have bolstered the security packages they offer to their customers. Often the packages are a combination of homegrown tools and off-the-shelf apps, some of which are included in the suites we tested for this story.

### AOL'S DE FACTO SUITE

FOR EXAMPLE, AOL'S Safety and Security Center bundles the company's own spam-protection, parental-control, pop-up-blocking, and antiphishing tools together with the firewall, antivirus, and antispyware components of McAfee's suite.

AOL's package, a 28MB download, consists of numerous different applications, but to users the bundle should appear as a single, seamless program, according to Andrew Weinstein, a company spokesperson. "We made the Internet easy; now we want to make security easy, too," he says.

One of the ways AOL tries to make life easier for its customers is by blocking many Internet threats at its servers, before

they ever reach users' computers. Weinstein says that each day the company blocks about 8 million phishing attempts and nearly 1.5 million pieces of spam from reaching its customers.

### EARTHLINK FIGHTS SPYWARE

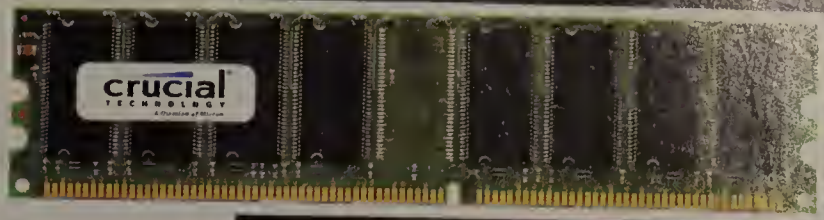
EARTHLINK TOOK ITS efforts to create an all-in-one security package so seriously that it purchased the antispyware software company Aluria in 2005. Now EarthLink's Protection Control Center—a 16MB download free to dial-up and broadband customers and available to non-EarthLink customers for a \$5 monthly fee—includes apps created by both companies, as well as antivirus and firewall features from partner Authentium.

One of the reasons EarthLink chose Aluria as a partner early on was that its technology is very adaptable, says Ben Kaplan, EarthLink's product manager of security applications. "We could apply their technologies to our own and control how it looks." The result is a simple, consolidated interface that EarthLink users understand, he says. The company estimates that about 1.4 million people currently use the software.

PeoplePC, an EarthLink subsidiary that provides budget dial-up Internet access, recently launched its own Aluria-based Internet Security Pack. The software is similar to the EarthLink suite but sports its own look. The company's Security Plus members can download the program for free, and standard members can purchase the product for \$2 per month.

So why are ISPs going to all the trouble and expense of offering these comprehensive security services? It's simple—they want to keep their customers happy. As Kaplan puts it, "We're heavily invested in protecting our consumers and bringing great value to their staying with EarthLink." —Tom Mainelli

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# McAfee and Panda packed in the most security extras.

tinct animals, monitoring inbound and outbound network traffic and flagging suspicious behavior. The firewalls of the ten suites we tried all let you set some sort of general security level, whitelist and blacklist individual applications, and enable specific ports and network protocols.

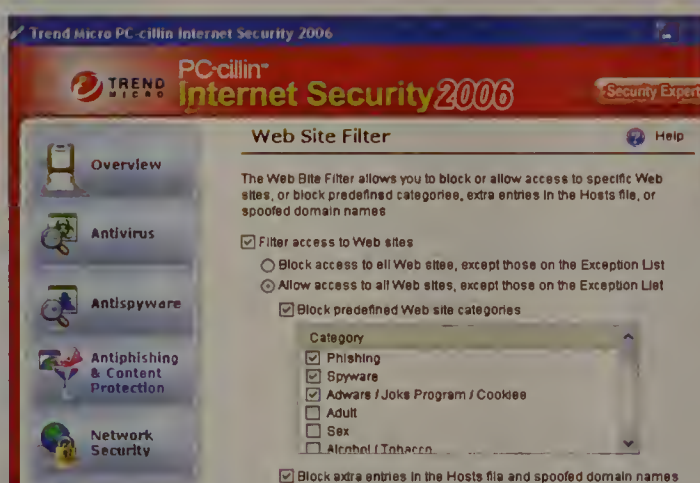
Great firewalls can differentiate between good and bad traffic, alert you to serious trouble, and provide enough detail about detected activity for you to make an educated decision about whether to allow it. Subpar firewalls pipe up so frequently with undecipherable information that you may end up blocking traffic you need—or worse, turning the firewall off.

We tested the suites' firewalls for their ability at default settings to block attacks from outside sources, as well as from malware apps already on the PC. The CA, Microsoft, Symantec, and Zone Labs products each scored 100 percent in our inside-attack tests: Malware was unable to deactivate the firewall in memory, delete it from the hard drive, or steal the rights of legitimate programs (some malware, for example, will be dressed up to look like Internet Explorer and will try to grab all the rights that you have granted IE). And back-door applications placed on our test computers both before and after we installed each of these four suites weren't able to access the Internet.

At its default settings Aluria's firewall failed all of our inside-attack tests, but at its high setting it passed both the stolen-application-rights test and the back-door test. Aluria says that the suite's default security level, which leaves open network ports 80 and 443, is purposely set to minimize the number of initial firewall alerts

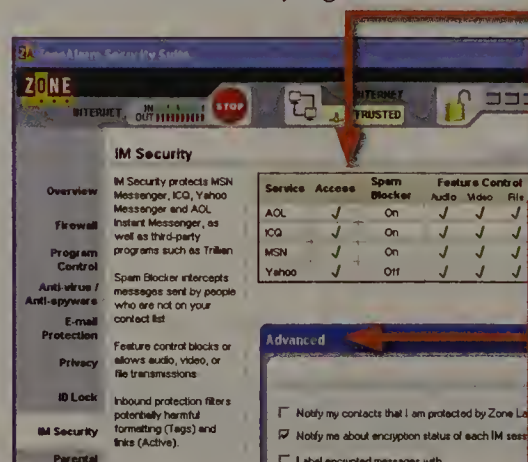
a user will receive. "We want our customers to be able to configure the product the way they want to," says Jack Dunston, product manager for Aluria Software.

We also tested the firewalls to see whether they could spot malware attempting to smuggle data out of the PC. Zone Labs' firewall was again 100 percent successful, passing all 17 leak tests, with Microsoft's in second place, passing 7



THE WEB SITE Filter acts as Trend Micro's parental controls.

tests. The other products earned very low scores, and Panda's passed none of the leak tests. Keep in mind that AV-Test.org runs standardized leak-test utilities available to security vendors. Zone Labs, for one, builds its products to pass all leak tests; Panda, on the other hand, says that it doesn't optimize its software for leak tests, instead relying on its Tru-



ZONE LABS' CONTROLS for IM clients are extensive.

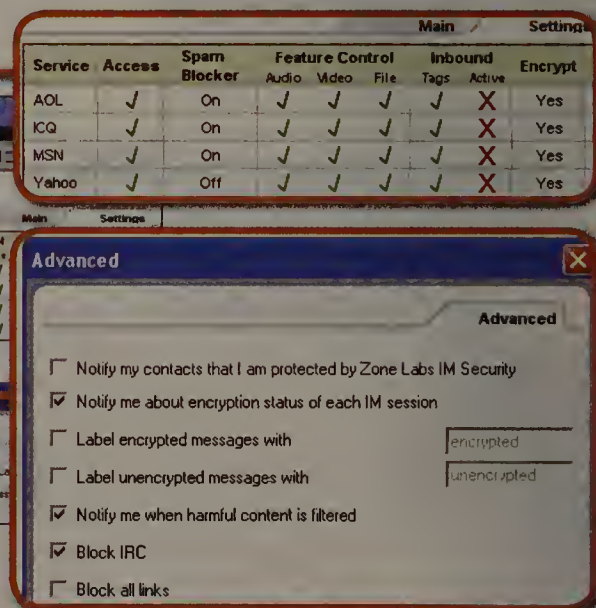
Prevent behavior-based technology to decide whether a piece of code is malicious.

In our tests to evaluate the products' response to outside attacks, the packages from CA, F-Secure, McAfee, Panda, Symantec, and Zone Labs received scores of 100 percent. These suites blocked all standard and stealth port scans. They halted Internet traffic trying to enter the PC through ports opened for SMB-based file sharing, which suggests that they can differentiate between good and bad traffic on your home network. They also did not reveal data about our test PCs' operating systems. Once again, however, Aluria's firewall failed two of the four tests at default settings, though it would have scored 100 percent at its high setting. Both Trend Micro's and BitDefender's firewalls did not block open SMB shares—and neither did the Microsoft firewall, which also rendered the OS guessable to port sniffers.

## EXTRAS, EXTRAS

ALL OF THE suites have antispam protection; beyond that, they offer slightly different feature sets. The McAfee and Panda products packed in the most security extras, while the Microsoft one had the least (although OneCare does include backup software and disk tune-up tools).

Except for the Aluria and Microsoft products, all of the suites have parental controls where you can block undesirable Web site categories such as sex, drugs, and gambling. Trend Micro's suite offers equivalent URL filtering, though it ►



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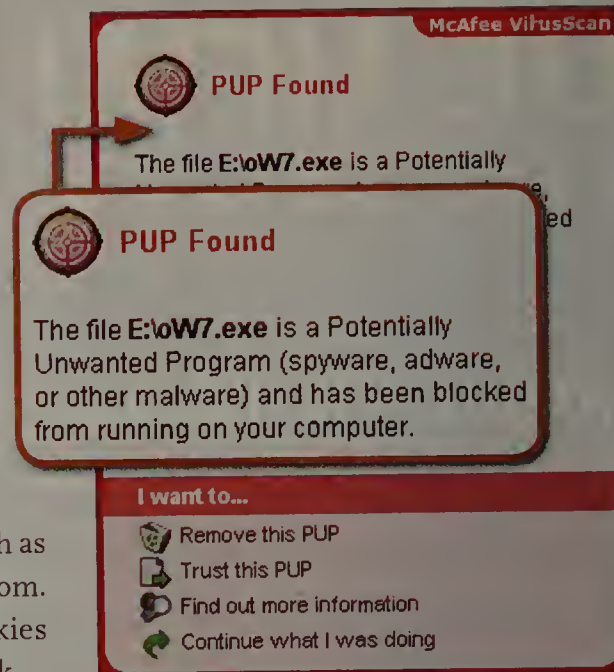
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doesn't call the feature parental controls. While CA's suite doesn't provide its own parental controls, it does include a separate CD that offers the service through BlueCoat's K9 Web Protection. Zone Labs' package supplies Smart Filtering Dynamic Real-Time Rating for categorizing Web sites that aren't currently on a user- or software-defined whitelist or blacklist. The BitDefender, McAfee, and F-Secure suites go the extra mile, permitting parents to specify times when their kids can and can't surf the Web.

The CA, McAfee, Symantec, Panda, Trend Micro, and Zone Labs suites offer

privacy controls that prevent sensitive data, such as credit card information, from leaving your PC—however, the suites' high-privacy settings are aggressive. For example, the maximum privacy setting in Symantec's suite invoked a high-risk cookie alert every time a site dropped a cookie onto our test system, even when it was from a reputable site such as the *New York Times*' site or PCWorld.com. At the suite's default settings, cookies like these are not considered high risk.

Other cool features: The McAfee, Panda, Symantec, and Zone Labs suites ►



**MCAFEE DOESN'T DIFFERENTIATE** between adware and spyware, calling either one a PUP.

## MAINTENANCE

# 10 Tips for RUNNING SECURITY SUITES



age. We asked several security companies to contribute advice on properly installing and maintaining security software.

**1 Trash your old security software:** You should run just one antivirus engine at a time. Completely uninstall one antivirus product and reboot your PC before installing another one. Also, turn Windows' firewall off when using another company's firewall; some products will offer to turn it off for you.

**2 Check your hard drive's health:** It's wise to run Windows' Chkdsk utility several times before installation to rule out or repair problems with your system's hard drive. Go to *Start, Run* and type `chkdsk` in the dialog box. Click OK.

**3 Freshen up Windows:** Run Windows Update to make sure that your system is completely up-to-date before you install security software, which you should also be certain to update.

**4 Make an ID card:** In case you need to call tech support, make a record of the install date, the serial number, and the support phone number of your security suite. You will need this information, and some tech support calls are charged by the minute.

**5 Run an extra antispysware app, if you wish:** You can run a

ATTEMPTING TO install and run a full-featured security suite can be a complex and daunting proposition, especially if the task involves replacing one vendor's product with another company's pack-

separate antispysware utility alongside your security suite, but you should be careful to coordinate the two products' schedules to ensure that you have only one application's scanner and update engine running at a time.

**6 Stay networked:** PCs connected to a network, particularly via VPN, may have custom network settings. If after installing a security suite your system hangs during the reboot, disconnect from the network. When you've rebooted successfully, reconnect to the network and let the security suite configure your firewall's settings. (Most products have a wizard to do this.)

**7 Handle printing and file sharing:** Your firewall should have predefined profiles that enable you to conduct file and print sharing; if it doesn't, you will have to create manual rules in your firewall that permit outbound TCP traffic to port 1023 and inbound traffic to port 139.

**8 Document your woes:** If a product gives you any indication of a problem—such as an error message or a malware warning—write down the exact wording of the entire message. Even better, take a screen shot of the information.

**9 Send away your bad stuff:** If you encounter suspicious files or e-mail messages, don't open and investigate them yourself. Send them to your security provider, making sure to follow the proper procedure. Most vendors have adopted an automated method for users to submit suspicious files.

**10 Keep your subscription current:** We can't overemphasize this point. Security products are only as effective as their latest update, and updates are typically not provided after your annual subscription expires. Once your year of coverage is up, don't forget to renew or replace your security software.

—Narasu Rebbapragada



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scan several instant-messaging clients for infected attachments. (Microsoft's scans only MSN Messenger.) The Panda, Trend Micro, and Zone Labs packages warn you when interlopers are mooching off your Wi-Fi connection. (McAfee's \$80 Wireless Home Network Security Suite also offers protection for your Wi-Fi network.)

While some extra features are handy, others only bulk up a suite's interface. A prime example is Symantec's Norton Protection Center, an additional window that monitors the functions of the suite's components. Adding another icon to your already crowded system tray, it pops up regularly to tell you the status of your security protection. It also presents marketing for other, related products; the Data Recovery portion will show a status of "no coverage" until you buy and install Symantec's \$50 SystemWorks utility suite.

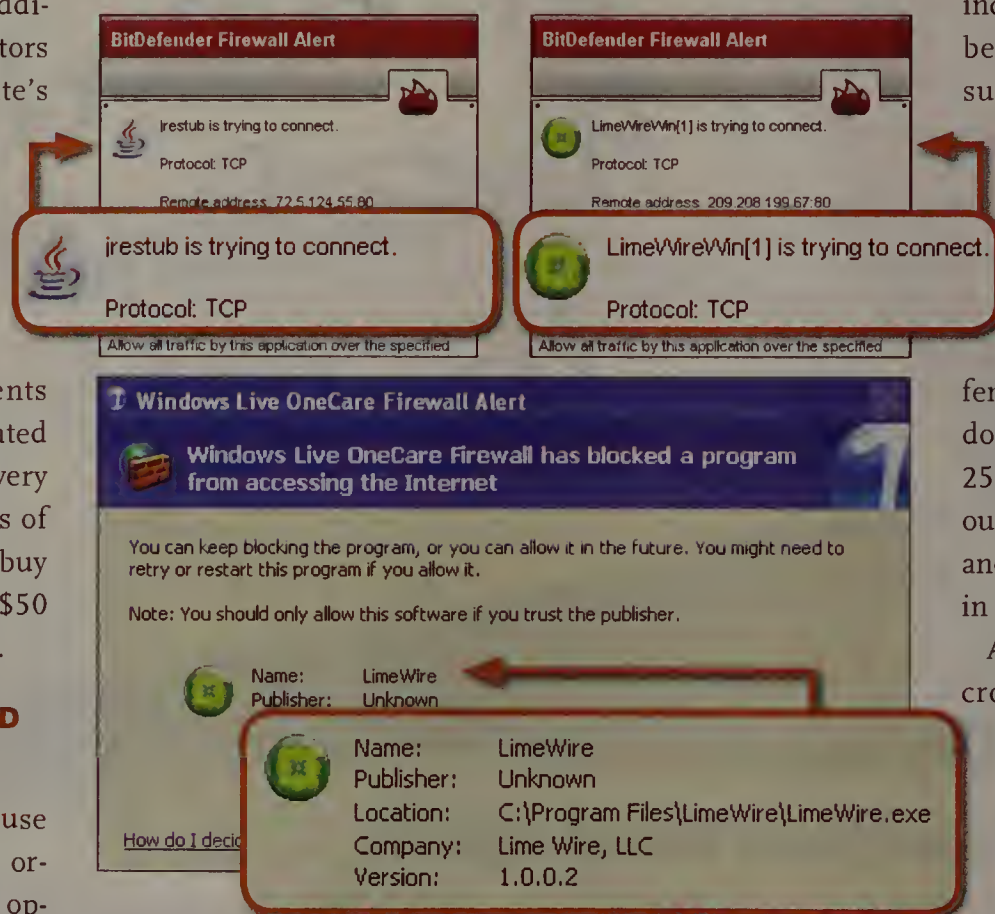
## INSTALLATION AND USABILITY

SUITES ARE SIMPLE to use when they install cleanly, or organize your configuration options well, run quickly, and alert you clearly to potential malware. Microsoft's and Trend Micro's suites fit those criteria the best, but for different reasons. Microsoft's product is easy to configure because there just isn't a lot to configure—a setup that many PC users might find limiting. On the other hand, Trend Micro's suite does an excellent job of cramming a multitude of options into a well-structured and aesthetically pleasing interface.

All the suites installed properly, and all configured our test PC's network settings correctly. (Right now, Microsoft's Windows Defender antispyware app is a separate software install.) Our few gripes were with McAfee's suite: Its painful installation required five restarts and the creation of a user name and password. A

subsequent dialog box makes you opt out of receiving newsletters about virus threats, McAfee promotions, and McAfee partner promotions. Also, initially we couldn't download software updates via Firefox; we had to use Internet Explorer and temporarily allow pop-up windows.

CA's suite was the worst integrated, depositing four icons in our system tray. Plus, the main interface doesn't link to Blue Coat's parental controls.



**MICROSOFT'S FIREWALL ALERT about LimeWire activity was more informative and polished than BitDefender's.**

Symantec's suite seemed to talk the most, regularly popping up software status alerts and cookie warnings. Some people may want this level of explanation; those who don't may prefer F-Secure's suite, which has a lot of deep settings but little instruction about managing them.

Speed also differentiated the products. Panda's suite performed the fastest on-demand virus scan, taking 6 minutes, 39 seconds to speed through 14.7GB worth of files and folders on our test PC. Trend Micro's was second-fastest with a scan time of 7 minutes, 37 seconds. F-Secure's was the slowest, completing the scan at a glacial pace of 28 minutes, 46 seconds.

F-Secure says that its real-time protection and its five scan engines—two for viruses and one each for spyware, rootkits, and heuristics—slow down scan speed.

We measured the suites' drag on system resources by installing them with default settings and then running WorldBench 5. Microsoft's product imposed the lightest load, increasing the execution time of each of our nine WorldBench 5 application tests by 4 percent or less. (An

increase of 15 percent would be noticeable.) The Aluria suite was the hungriest resource hog, more than doubling the execution time of our ACDSee PowerPack and Microsoft Windows Media Encoder tests. BitDefender's package also bogged down our system, causing a 25 percent time increase in our Microsoft Office 2002 test and a 69 percent time increase in the Mozilla test.

As for malware alerts, Microsoft's firewall warnings gave complete program and path information for apps trying to access the Internet. BitDefender's package had clearer virus alerts than firewall warnings. The McAfee suite refused to classify a threat

as adware or spyware, instead using the vague term PUP—potentially unwanted program—to describe both. For a closer look at the alerts, see each suite's online review at [find.pcworld.com/53488](http://find.pcworld.com/53488).

Overall, even the highest-rated suites, from Symantec and McAfee, weren't the best at all tasks, so power users may still want to mix and match best-of-breed security components. Many other people, though, will find it hard to beat the convenience of one-stop security shopping. ■

*Senior Associate Editor Narasu Rebbapragada covers security topics for PC World; Tom Mainelli is a senior editor.*

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June/July 2006



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(LX.T7806.091)

15.4" WIDE-SCREEN

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

## Acer® ezDock

Manage and organize peripheral connections with ease. Add or remove devices instantly, without turning off your notebook. The one-plug Acer ezDock features 21 interface ports and two card slots for desktop-like expansion possibilities, as well as PCI Express™ technology and a Kensington® lock slot.



Acer ezDock Docking Station

# \$299

(LC.D0103.004)

Compatible with the TravelMate 8200, 8100,  
4670, 4650, 4400, 3010, 3000, C310, C200;  
Ferrari 4000

acer

# acer

## Compare LCD Prices/Features & You'll Choose Acer®



Acer AL2051 W

**\$409**

(ET.L7008.006)

### Acer AL2051 W

- 20" wide-screen TFT LCD, Acer CrystalBrite Technology
- 1680 x 1050 native resolution
- 800:1 contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- Two 1.5W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m<sup>2</sup> brightness
- 8ms gray-to-gray response time
- External power adapter
- Silver/black color

**20" WIDE-SCREEN**



Acer AL1951C

**\$299**

(ET.L4108.068)

### Acer AL1951C

- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.5W integrated speakers
- VGA, DVI-D signal connectors
- 400 cd/m<sup>2</sup> brightness
- 4ms response time
- External power adapter
- Silver/black color

**\$10 PRICE CUT!**



Acer AL1916W

**\$229**

(ET.L5209.005)

### Acer AL1916W

- 19" wide-screen TFT LCD
- 1440 x 900 native resolution
- 500:1 contrast ratio
- 150° horizontal viewing angle
- 130° vertical viewing angle
- VGA signal connector
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Black color

**\$20 PRICE CUT!**



Acer AL1916 Ab

**\$229**

(ET.1916B.008)

### Acer AL1916 Ab

- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 140° horizontal viewing angle
- 140° vertical viewing angle
- VGA signal connector
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Black color

**\$20 PRICE CUT!**



Acer AL1717 Bbmd

**\$205**

(ET.1717B.MD8)

### Acer AL1717 Bbmd

- 17" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Black color

**\$24 PRICE CUT!**



Acer AL1716 Bb

**\$179**

(ET.1716B.00B)

### Acer AL1716 Bb

- 17" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- VGA signal connector
- 300 cd/m<sup>2</sup> brightness
- 8ms response time
- Internal power adapter
- Black color

**\$40 PRICE CUT!**

Acer recommends Windows® XP Professional.

## Acer® Aspire™ T135

### Exceptional Desktop Value



Value takes on a whole new meaning with the **Acer Aspire T135** minitower desktop. That's because it provides savvy consumers with a complete desktop solution, packed with performance, expandability and functionality. Whether managing personal finances, surfing the net, playing games or working on school projects, your entire family will reap the benefits—including the fun—of owning this versatile performer engineered around the solid dependability of an AMD Sempron™ Processor.



Monitor sold separately.

- AMD Sempron™ 3100+ Processor
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection<sup>1</sup>
- Genuine Windows® XP Home Edition
- 512MB DDR SDRAM
- 160GB<sup>2</sup> SATA hard drive
- DVD-Dual drive (DVD+/-RW)
- 9-in-1 card reader for optional MultiMediaCard™, Secure Digital card, SmartMedia™ card, Memory Stick®, Memory Stick PRO™, CompactFlash® I/II card, Microdrive® or xD-Picture Card™
- Integrated UniChrome™ Pro graphics
- 10/100 LAN, V.92 modem
- One-year limited warranty<sup>3</sup>



**9-IN-1 CARD READER**

**Acer Aspire T135-U-S3104**

**\$399**

AMD Sempron™ 3100+ Processor  
Genuine Windows® XP Home Edition

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

**acer**



# Acer® Projectors with DLP™ Technology

Digital Light Processing™ from Texas Instruments is an all-digital display technology for projectors and other products that delivers the best picture in terms of clarity, brilliance and color.



- 2000 ANSI lumens
- XGA (1024 x 768) native resolution
- 2000:1 contrast ratio
- 16.7 million displayable colors
- PC and Mac compatible

## Acer PD120D

**\$899**

(EY.J2201.012)



## PD120D

- 2000 ANSI lumens
- SVGA (800 x 600) native resolution
- 2000:1 contrast ratio
- 16.7 million displayable colors
- PC and Mac compatible

## Acer PD100

**\$669**

(EY.J2101.006)



## PD100

## Projector Accessories

Acer projectors come with these accessories: remote control (batteries included) with laser pointer; carrying case; lens cap; CD-ROM user's guide; quick-start instructions; AC power cord; VGA (D-sub) to component/HDTV adapter; VGA (15-pin D-sub), composite video (RCA), S-video, USB and audio (mini-to-mini phone jack) cables.

For permanent placement of a projector in a conference room or classroom, you'll want an easy-to-install Ceiling Mount. Also, consider keeping a Replacement Lamp on hand for your Acer projector.

### Replacement Lamp

**\$199**

(EC.J2101.001)

- Expected life in hours: 2,000 standard mode, 3,000 economy mode
- Designed for Acer PD120D and PD100

### Ceiling Mount

**\$79**

(EZ.PCM03.007)

- 6.6 pounds
- Designed for Acer PD525, PD120D, PD116P and PD100

Acer recommends Windows® XP Professional.

# Acer® Aspire™ 5000

## Power for Productivity



For your home or for your office the full-featured Acer Aspire 5000 notebook provides the must-have computing features, including a versatile DVD-Dual drive (DVD+/-RW) and wireless connectivity. You can also expect desktop-caliber performance from this multimedia powerhouse thanks to AMD Turion™ 64 Mobile Technology.



- AMD Turion™ 64 Mobile Technology
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology¹
- Genuine Windows® XP Professional
- 512MB DDR333 SDRAM
- 80GB² hard drive
- Integrated DVD-Dual drive (DVD+/-RW)
- 15.4" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- SiSM760GX chipset with integrated Mirage™ 2 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty³

**15.4" WIDE-SCREEN**

**Acer Aspire 5003WLMi**

**\$849**

AMD Turion™ 64 Mobile Technology ML-32  
Genuine Windows® XP Professional  
(LX.A5106.020)

**Made for mobility with  
AMD64 performance**



## Acer Notebook Service Upgrades Protect Your Valuable Investment

Quality is built into every notebook Acer makes, and each comes with a one-year standard limited warranty.³ It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. Extra protection is available with one of these upgrades:

2-Year Extension of Limited Warranty (146.AB820.EX2)

**\$99**

Prepays freight to and from Acer repair depot.  
Excludes extension of International Traveler's Warranty.

It's a tough world out there, and accidents do happen—sticky spills, dangerous drops, nasty knocks—which is why you should consider the Total Protection Upgrade. It runs concurrently with the limited warranty³ and limited warranty extension and covers the cost of a replacement unit if your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)

**\$199**

Prepays freight to and from Acer repair depot.  
Excludes extension of International Traveler's Warranty.

Prices shown are estimated street prices and do not include tax or shipping.  
Retailer or reseller prices may vary.

**acer**



Acer recommends Windows® XP Professional

# Acer® Aspire™ 3000

## Entertainment Starts Here



The Acer Aspire 3000 Series of notebooks is based on the latest Mobile AMD Sempron™ processors with AMD PowerNow!™ Technology and designed for home users and professionals from small businesses in search of excellent mobile performance and high entertainment value. These slim, space-saving systems come with multimedia capabilities and full industry-standard connectivity. Energize your work and leisure time with the Acer Aspire 3000.



- Mobile AMD Sempron™ Processor 3300+
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology<sup>1</sup>
- Genuine Windows® XP Professional
- 512MB DDR333 SDRAM
- 80GB<sup>2</sup> hard drive
- Integrated CD-RW/DVD-ROM combo drive
- 15.4" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- SiSM760GX chipset with integrated Mirage™ 2 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty<sup>3</sup>

**Acer Aspire 3005WLCi**

# \$749

Mobile AMD Sempron™ Processor 3300+  
Genuine Windows® XP Professional  
(LX.A5506.028)

**\$50 PRICE CUT!**

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

<sup>1</sup> Enhanced Virus Protection (EVP) is enabled by Microsoft® Windows® XP Service Pack 2. By default, EVP will protect the user's Windows operating system only. Users must enable the protection of their applications and associated files to be protected from memory buffer overrun attacks. AMD and Microsoft strongly recommend that users use third-party anti-virus software as part of their security strategy.

<sup>2</sup> When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

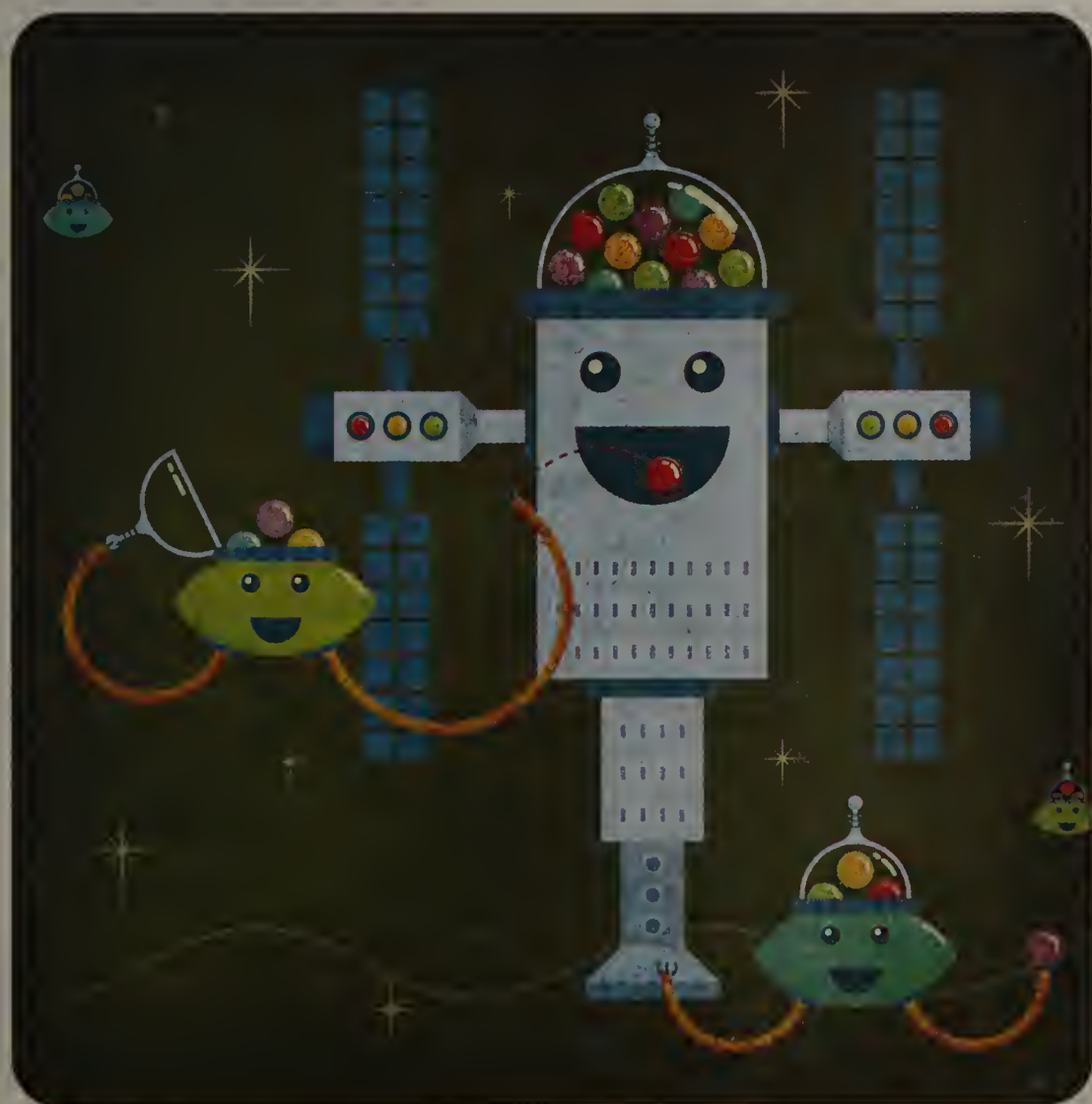
<sup>3</sup> For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.

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These 17 free and low-cost services make it easier than ever to back up and share your files online.

# STORE IT ON THE >>> WEB



ALL YOUR IMPORTANT files—text documents, spreadsheets, music and videos, you name it—may start out sitting safe and snug on your PC's hard drive. But what if the drive goes belly up, or runs out of room? And what if you'd like an easy way to share those files with coworkers or friends? Web-based storage services let you back up your data, store your files on a Web server, or share them quickly and simply with anyone, often at no cost. Of the 17 services we tried, our favorite backup service is IBackup, while the GoDaddy Online File Folder is our pick of the storage sites. And for sharing files, we like the free 4shared.com service. ►

BY JON L. JACOBI, ERIK LARKIN, AND STEVE BASS

# Back Up to the Web



OFFSITE BACKUPS ARE the safest way to protect data. These six services—IBackup, XDrive, FirstBackup, Acpana's Data Deposit Box, ElephantDrive, and Mozy—are free or offer no-cost trials. However, you must provide credit card information to access the trial versions, so be sure to cancel if you drop them. Most of the services cancel automatically at the end of the trial, but XDrive rolls over to the pay plan without asking for your permission first.

Though IBackup is the best all-around backup service I tested, the beta version of Mozy has much to recommend it, despite some rough edges, so it's a service to keep an eye on. Of course, not the least of its virtues is that it's free.

## IBACKUP

BOTH IBACKUP AND XDrive cost the same, and the features of the two services are almost identical: multimedia streaming, browser-based file management, and file sharing. However, unlike XDrive,

IBackup doesn't require that your friends open an IBackup account to view the files you want to share with them.

The service's client software isn't as easy to use as the XDrive Desktop client. IBackup, though, didn't misfire during backups as XDrive did in my tests. IBackup's IDrive feature, like XDrive Desktop, maps your IBackup files to a network drive, which lets you drag and drop files between the two.

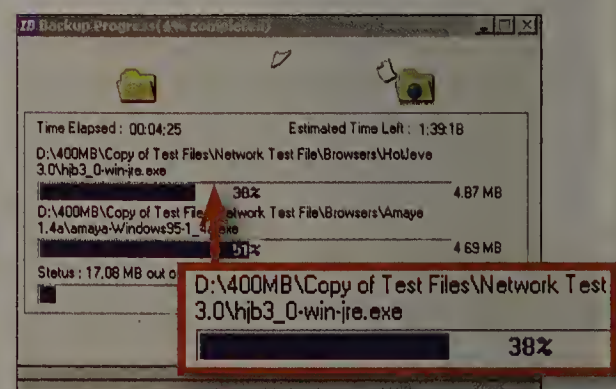
## XDRIVE

THIS SERVICE SUPPORTS file sharing and streaming of media files to cell phones. You can manage your files via the XDrive Desktop client, or in a browser via the service's Web interface. Unfortunately, despite its features, the XDrive Desktop client stumbled too many times: I encountered C++ runtime errors and several failed backups. None of the other client programs I tried even hiccupped.

## FIRSTBACKUP

THE CLIENT SOFTWARE it uses is well designed, but FirstBackup can't back up automatically when the PC is idle.

FirstBackup provides just one simple pricing plan: \$4 per month (three months minimum) for up to 50MB, \$8 per month for up to 300MB, \$12 per month for up to 1GB, and \$2.75 for each additional gigabyte. Those costs are affordable as long as you're backing up only limited amounts of data, but by the time you reach 5GB, the charges come to a total of \$23 per month, more than twice what you would pay for the same amount of storage on either IBackup or XDrive.



KEEP A CLOSE eye on the progress of your backup in the IBackup client software.

## ONLINE BACKUP

### Keep Your Data at a Safe Distance

THESE SERVICES ENSURE that your important files are secure on their Web servers no matter what calamity may befall the PC situated in your home or office.

|                 | SERVICE                                                                                                                 | PCW Rating | Pricing                                                                                                                                                                | Free trial | Browser-based access     | Map as network drive |
|-----------------|-------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|----------------------|
| 1               | IBackup<br>www.ibackup.com                                                                                              | 78<br>Good | \$10 per month or \$100 per year for up to 5GB; \$50 per month or \$500 per year for 50GB; Enhanced and Workgroup plans also available                                 | 15 days    | Yes                      | Yes                  |
|                 | ► Not quite as friendly as XDrive, but has the same low price and features as well as a more reliable backup client.    |            |                                                                                                                                                                        |            |                          |                      |
| 2               | XDrive<br>www.xdrive.com                                                                                                | 77<br>Good | \$10 per month or \$100 per year for up to 5GB; \$300 per year for 50GB                                                                                                | 15 days    | Yes                      | Yes                  |
|                 | ► As cheap as a fee-based service gets. Features go way beyond backup, but the client software can be buggy.            |            |                                                                                                                                                                        |            |                          |                      |
| 3               | AmberWave Communications<br>FirstBackup<br>www.firstbackup.com                                                          | 77<br>Good | \$4 per month (3-month minimum) or \$39 per year for up to 50MB; \$12 per month or \$110 per year for 1GB; additional gigabytes cost \$2.75 per month or \$25 per year | 15 days    | No                       | No                   |
|                 | ► Superclean client and reliable, secure service. A good choice for businesses that want to avoid Web security hassles. |            |                                                                                                                                                                        |            |                          |                      |
| 4               | Acpana Data Deposit Box<br>www.datadepositbox.com                                                                       | 76<br>Good | \$0.01 per megabyte to 1GB; \$3 per gigabyte per month above 1GB                                                                                                       | 30 days    | Yes                      | No                   |
|                 | ► A penny per MB is great for small amounts of storage. Client backs up during PC idle time. Excellent Web interface.   |            |                                                                                                                                                                        |            |                          |                      |
| BETA, NOT RATED | ElephantDrive<br>www.elephantdrive.com                                                                                  | n/a        | Free (500MB)                                                                                                                                                           | n/a        | No                       | Not in beta          |
|                 | ► Promising beta with free storage, but it isn't ready for prime time. Currently requires Microsoft's .Net Framework.   |            |                                                                                                                                                                        |            |                          |                      |
|                 | Mozy<br>www.mozy.com                                                                                                    | n/a        | Free for up to 2GB; \$20 per year for 5GB                                                                                                                              | n/a        | Beta offers restore only | No                   |
|                 | ► Easy to use; customers using the free plan receive a weekly newsletter. Note that service was in beta at testing.     |            |                                                                                                                                                                        |            |                          |                      |

CHART NOTES: Pricing and ratings are as of 5/10/06; n/a = not applicable.



**YOU GET A** clear view of your backed-up files in XDrive's Explorer-like browser-based management application.

### ACPANA DATA DEPOSIT BOX

THIS IS ONE of the priciest of the backup services I tested, although its penny-per-megabyte-per-month plan has no minimum charge: Store nothing, pay nothing, or store only a few megabytes and pay only a few pennies per month—a boon for anyone who backs up only relatively small amounts of data.

Data Deposit Box features a desktop client software that is both reliable and easy to use. Unfortunately, the service lacks a “do backup now” option. You do get several nice bonus features with the service, including the ability to share folders by e-mail, and a file-management interface that’s clean and practical.

### ELEPHANTDRIVE

CURRENTLY IN BETA, this site offers 500MB of free Web storage. Its pay plan costs more than Mozy’s, but at \$10 per month or \$100 per year for up to 10GB of storage, its per-gigabyte rate is half that of either IBackup or XDrive.

Without a fast upstream connection, however, it could take days to upload gigabytes of data to this service.

ElephantDrive supplies client software only for Windows. ElephantDrive says it will switch from Microsoft’s .Net Framework to the open Java platform to add support for Mac and Linux users.

In my tests, file transfers were stable and reliable, but the ElephantDrive client did drop some connections. Nevertheless, any service whose marketing uses elephant puns bears watching.

### MOZY

MOZY’S CLIENT SOFTWARE for uploading and restoring files was in beta when I tested it, but the service performed well,

even though it lacks any visual feedback while a backup restore is in progress (this should be fixed by launch time).

Mozy’s for-pay service is downright cheap compared with the other backup services I looked at: it costs \$20 to store up to 5GB, \$30 for 10GB, and \$40 for 20GB—per annum. You can perform only five free restore operations per month, but that should be more than enough for most users. —Jon L. Jacobi

### SAFETY TIP

#### ONLINE PERILS

A WORD OF CAUTION to anyone using online storage: Servers crash, and companies go out of business, both without warning. Never trust an online storage service with the only copy of your vital data. Also, while all of these services take measures to lock down your data, the privacy and security of your files is ultimately up to you. Be sure to encrypt all files holding personal data, and plan for the day your online files disappear.

## Find Ample Storage Online



ANYONE WHO OWNS a digital camera or an MP3 music collection knows it doesn’t take very long at all to fill up a hard drive. If you have a broadband Internet connection, you could save some of the cost of a new hard drive by using one of the many services offering free or dirt-cheap online storage.

My favorite for music and video playback is Streamload, while Online File Folder is the choice for integrating online storage with day-to-day work.

### ONLINE FILE FOLDER

GODADDY’S ONLINE STORAGE service is decidedly businesslike. Its clean, Explorer-style Web interface makes file

management a breeze. But you don’t even have to fire up your browser if you map the service as a network place in Windows, which then permits you to transfer files and folders by dragging and dropping them from within Explorer.

This is the only one of the storage-focused services I looked at that lets you zip and encrypt your files and folders via the Web interface. Oddly enough, there’s no search feature, although you can use Windows’ search function to find files on the mapped network place.

A small downloadable program allows you to sync an online folder with a folder on your desktop, so updating one automatically updates the other.

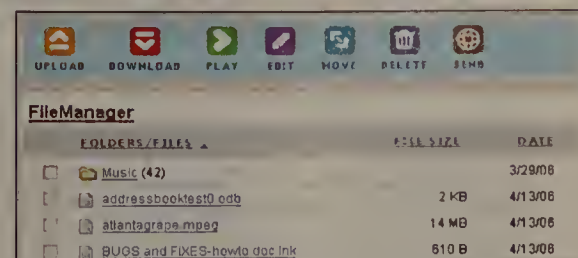
You have no free option, and you must

pay by the year rather than monthly. Still, \$10 a year per gigabyte (up to 10GB) isn’t bad, considering all the extras you get.

### STREAMLOAD MEDIAMAX

HOW DOES UP to 25GB of free storage space sound? The gratis storage alone makes Mediamax worth a look.

As befitting the name, Mediamax emphasizes storing your music, video, and photos. When you upload files, the ►



**STREAM AUDIO AND** video files for free, but Streamload limits downloads and sharing.

service automatically sorts them under such tabs as “Photoshare” and “Music Locker.” With Streamload’s easy streaming options, the service acts as a ready-access library for all your media files. You just select a few songs or whole folders, choose Play, and listen via your favorite media player.

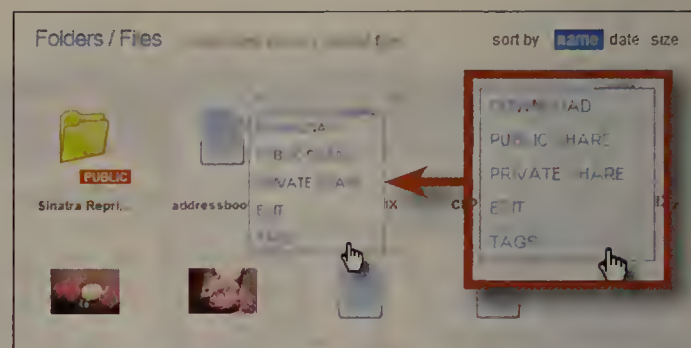
Unfortunately, you can quickly use up the free service’s monthly 500MB download maximum. The limit leaps to 25GB (and a whopping 250GB of storage) for the cheapest paid plan (\$15 a month).

Streamload Mediamax is a new service, and it has rough edges aplenty. The file-

upload features are clunky, particularly if you upload many files at once, since you can’t choose the destination folder. And while a new Web interface affords good options for organizing your music, it sometimes balks with strange errors. A stand-alone software program is expected to arrive soon.

### BOX.NET

YOU GET 1GB of free space and a clean, lean Web 2.0 interface with this service. File management, including the ability to



**BOX.NET OFFERS A clean Web 2.0 interface for managing files, but storing more than 1GB will cost you.**

tag your files and folders, is also simple.

Yet Box.net offers little in the way of extras. A stand-alone program that will synchronize with your desktop folders is still in the works. And while you can stream music, you can play just one song at a time, and only through Box.net’s own little desktop player applet.

The free version has some limits: You can’t upload files larger than 10MB, and you can download only one file at a time. The paid options—\$5 a month for 5GB, and \$10 a month for 15GB—do away with these limits and offer both mobile access and support for additional users.

### SIMDESK

THIS SERVICE PROVIDES a number of nice features, especially for business collaboration. For example, you can map the service as a network drive, and you can sync online files with those in a desktop folder. It also lets you send online files to a shared printer via its browser-based interface. You can even get to that interface using a Web-enabled mobile device.

However, the Simdesk Web interface is inelegant, and file navigation is slow: To move a file, you have to use the program’s buttons to cut and paste it rather than simply dragging and dropping it.

Simdesk’s pricing isn’t so hot, either: It costs \$3.50 a month for up to 1GB of storage and \$6.50 per month for 2GB, which doesn’t compare to GoDaddy’s low-cost offerings. In addition, Simdesk imposes a 5GB-per-month transfer limit.

### FLIPDRIVE

COMPARED WITH THE other online storage services I looked at, FlipDrive feels spartan. The site’s free service offers only 25MB of storage, so it’s a teaser. The FlipDrive Web interface is utilitarian, and

## ONLINE STORAGE

### Extend Your Hard Disk to the Web

IF YOUR HARD drive is running low on free space, you can avoid a costly storage upgrade by stowing your files with one of these online storage services.

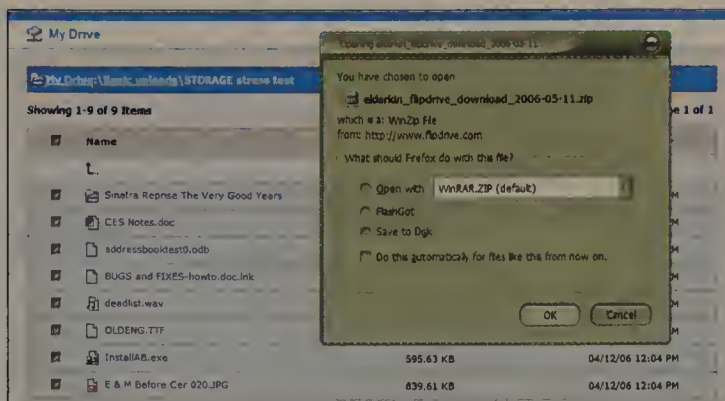
|                                                                                                                          | SERVICE                                              | PCW Rating             | Pricing                                                                                                                                                       | Free trial | Browser-based access | Map as network drive                  |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|---------------------------------------|
| 1                                                                                                                        | GoDaddy Online File Folder<br>find.pcworld.com/53132 | <b>83</b><br>Very Good | \$5 per year for up to 50MB; \$10 per year for 1GB; \$20 per year for 2GB                                                                                     | No         | Yes                  | Network place, but not a drive letter |
| ▶ Has a good Web interface, but maximum storage is 10GB. Many excellent features; a great buy if you need little space.  |                                                      |                        |                                                                                                                                                               |            |                      |                                       |
| 2                                                                                                                        | Streamload Mediamax<br>mediamax.streamload.com       | <b>81</b><br>Good      | Free for up to 25GB (limited downloads, sharing, and maximum file size); \$15 per month or \$120 per year for 250GB; \$40 per month or \$360 per year for 1TB | n/a        | Yes                  | No                                    |
| ▶ Lots of storage and excellent media streaming; downloads, sharing, and maximum file size are limited in the free plan. |                                                      |                        |                                                                                                                                                               |            |                      |                                       |
| 3                                                                                                                        | Box.net<br>www.box.net                               | <b>80</b><br>Very Good | Free for up to 1GB; \$5 per month or \$50 per year for 5GB; \$10 per month or \$100 per year for 15GB                                                         | n/a        | Yes                  | No                                    |
| ▶ A nice interface makes the service fast and simple to use; lacks such extras as client software and network mapping.   |                                                      |                        |                                                                                                                                                               |            |                      |                                       |
| 4                                                                                                                        | Simdesk<br>simdesk.com                               | <b>78</b><br>Good      | \$3.50 per month for up to 1GB; \$3 for each additional gigabyte to 10GB                                                                                      | 30 days    | Yes                  | Yes                                   |
| ▶ Has printer sharing and mobile access, but it uses a clunky Web interface and offers less storage than rivals do.      |                                                      |                        |                                                                                                                                                               |            |                      |                                       |
| 5                                                                                                                        | FlipDrive<br>flipdrive.com                           | <b>76</b><br>Good      | Free for up to 25MB; \$5 per month or \$50 per year for up to 5GB; \$10 per month or \$100 per year for 15GB; \$20 per month or \$199 per year for 30GB       | 30 days    | Yes                  | No                                    |
| ▶ Offers simple file downloads and lets you make photo albums, but has no other extras; Web interface is lackluster.     |                                                      |                        |                                                                                                                                                               |            |                      |                                       |
| 6                                                                                                                        | Online Storage Solutions<br>find.pcworld.com/53578   | <b>70</b><br>Good      | \$5 per month for up to 10GB; other plans range from \$10 per month for 20GB to \$35 per month for 100GB                                                      | None       | Yes, but limited     | Yes                                   |
| ▶ Gives you more storage for your money than most others do, but it uses a no-frills, kludgy Web interface.              |                                                      |                        |                                                                                                                                                               |            |                      |                                       |

**CHART NOTES:** Pricing and ratings are as of 5/10/06; n/a = not applicable.

there's no client program to use instead.

The service's Web download feature stands out: Choose several folders and files, and FlipDrive automatically zips them to speed your downloads and preserve file names and directory structures. Still, dragging and dropping files to and from a mapped drive is probably faster.

You can make as many sharable photo albums as you like and order prints of pictures in the album from FlipDrive. However, you can't download full-size, full-resolution images. FlipDrive costs about the same as Box.net—\$5 a month for 5GB, \$10 a month for 15GB—but its top level costs \$20 a month for 30GB.



**FLIPDRIVE'S ZIPPED-UP DOWNLOADS are great, but its features are otherwise lacking compared with other services.**

## ONLINE STORAGE SOLUTIONS

THIS SERVICE SLAPS a bare-bones interface around a large File Transport Protocol account. It lacks such features as online file management, media streaming, file synchronizing, and other extras. However, as with any FTP account, you

can use Novell's free Net-drive utility to map a network drive.

The upside: You get more space for your money: up to 10GB for only \$5 per month, and up to 100GB for \$35 per month. For FTP users

looking for a lot of storage space with few restrictions, and who don't require such niceties as a functional Web interface, Online Storage Solutions might be a good storage choice. Otherwise, another storage service in this roundup will serve you much better. —Erik Larkin

# Share the Web Way



SURE, YOU CAN attach umpteen files to an e-mail and blast it to three or four dozen of your nearest and dearest, but, oh, the hassle—adding each address, selecting and attaching the files one by one, and then choking the pipes of your ISP and those of each recipient. A better way is to post the files on the Web and send everybody a single URL so they can retrieve and open the files on their own, at their convenience. For me, the icing on the Web-sharing cake is that many of the services are completely free of charge (and we all love a bargain).

Of the five sharing services I looked at, my favorites are YouSendIt for its simplicity, and 4shared.com for its winning interface. Now let me share with you my opinion of these Web-sharing sites.

## 4SHARED.COM

THIS FREE SERVICE provides 500MB of storage and lets you upload an unlimited number of files (though no single file can exceed 25MB in size). All of the folders you place on 4shared.com's servers are permission-based, so you can easily make some folders available to anybody while restricting access to others. You can also password-protect your folders, which adds another layer of security. Visitors

access the folders through an e-mail link.

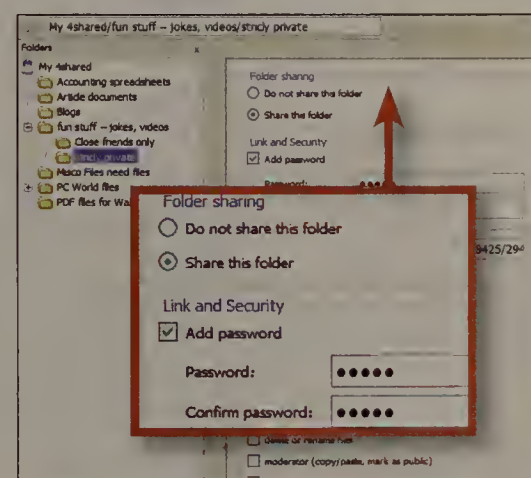
In less than 10 minutes, I created a dozen folders and subfolders, each with specific rights. You can track how many files are downloaded, but unfortunately you can't find out who did the downloading. One quibble with the free account: You have to upload and download the files one at a time. You get more storage, multiple file transfers, and the ability to store files larger than 25MB for fees ranging from \$48 to \$84 per year.

## GROOVE VIRTUAL OFFICE

ACQUIRED LAST YEAR by Microsoft, this collaboration service—and WebEx Web-Office Workgroup (see below)—differ from the other sharing sites I tested in their business-ready robustness, which makes them ideal for sharing data with work associates. However, Groove is also great for sharing with friends and family. The service provides you with a private, shared workspace and offers all the critical collaborative functions: file sharing, instant communications, and shared calendars. You can use Groove's desktop application to collaborate on projects and documents by storing and sharing files in various folders; edit and sync Word documents and other text files; view PowerPoint presentations; and enter meeting

and other dates on a shared calendar.

Besides sending e-mail within Groove, you can also conduct real-time, online meetings using the service's built-in instant messaging tool. If you have a microphone connected to your PC, you can use Groove's cool audio-chatting feature. The service even lets you do multiple tasks simultaneously—say, participate in an online meeting while uploading



**WITH 4SHARED.COM, CONTROLLING access to shared files and folders is a breeze.**

files and collaborating on a document.

The 60-day trial version has document review and other features disabled; you can continue using the app after 60 days (the service is free for personal use), but the meetings tool and other functions won't work, and the connection speed is a poky 56 kbps, which makes the free version impractical for most PC users. ►

## WEBEX WEBOFFICE WORKGROUP

WEBEX'S COLLABORATION TOOL, which it acquired along with Intranets.com last year, provides a variety of ways to share files. You can allow authorized users to access, download, and modify the folders you create. Unlike Groove, however, WebOffice doesn't let people work together on the online files. The basic plan limits storage to 250MB combined for up to five users. You can allow non-WebOffice users to view and download files.

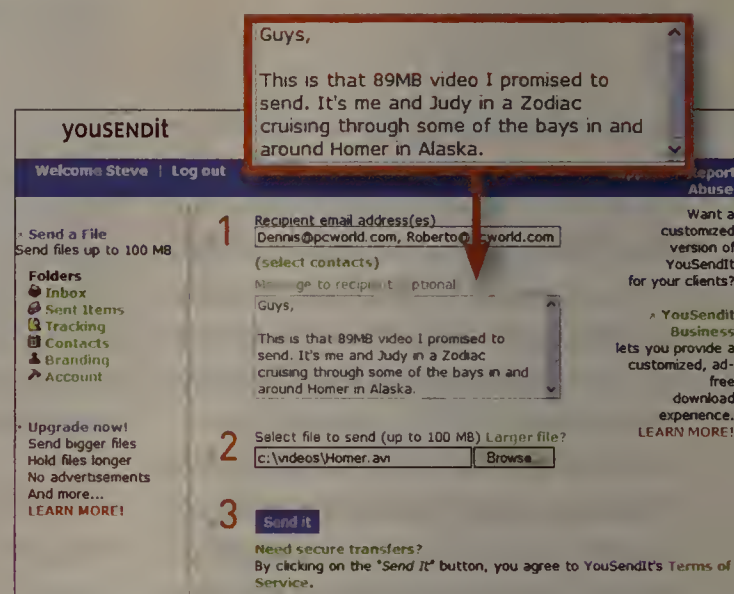
The WebOffice calendar features a group scheduling capability similar to the scheduler in Microsoft Outlook. You can attach documents and agendas, manage projects, and sync calendars and other data with your Palm (but not Windows

Mobile or BlackBerry) PDA.

Unlike Groove, in WebOffice all of your group's activity is done through a browser. WebOffice costs \$60 a month for up to five users and \$100 a month for ten users. WebEx Meetings costs an extra \$50 per user per month. The fully-functional, 30-day trial includes WebEx Meetings.

## RAPIDSHARE

THIS SIMPLE, NO-FRILLS, free site lets you upload as many files as you want, each as large as 100MB, and send the download link to any number of recipients. The files can be downloaded an unlimited number of



**SHARE FILES AS large as 100MB for free—and up to 1GB per file for a small fee—with the YouSendIt service.**

times, and they remain on the server as long as they're downloaded at least once every 30 days. To avoid the annoying 23-second wait before you can download a file, sign up for a premium account that costs 10 euros—about \$12 per month.

## YOUSENDIT

THIS FREE SERVICE lets you upload files to its Web servers for temporary storage. You can include a personal note along with the upload; YouSendIt then sends an e-mail to the person you're sharing with that explains how to pick up the file. You're notified when the file is sent and when it's picked up. The recipient's name is automatically added to your YouSendIt Contacts, too. While you can send your file to several people at once, the "Send To" field won't hold more than 128 characters; the service says it imposed this limit to prevent spammers from using it.

The free version limits the file size to 100MB. The files you upload are stored for seven days or for a total of 25 downloads per file. That is probably more downloads than most people will need (it's plenty for me). But \$5 per month raises the size limit to 1GB, the per-file storage period to 14 days, and the downloads to 100.

—Steve Bass ■

Jon L. Jacobi is a contributing editor, and Erik Larkin is an associate editor for PC World. Contributing Editor Steve Bass writes the Bass Blog and is the author of *PC Annoyances*, published by O'Reilly.

## COLLABORATION

### The Best Sites for Sharing

RATHER THAN WRESTLE with e-mail attachments, let these services distribute your digital images, documents, and other files to family, friends, and coworkers.

|                 | SERVICE                                                                                                                      | PCW Rating      | Pricing                                                                                                                                                            | Free trial | Browser-based access | Map as network drive |
|-----------------|------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|----------------------|
| 1               | 4shared.com<br>4shared.com                                                                                                   | 93<br>Superior  | Free for up to 500MB (25MB maximum file); \$5 per month or \$48 per year for 1GB (100MB maximum file); \$6 per month or \$60 per year for 1GB (no file-size limit) | n/a        | Yes                  | Yes                  |
|                 | ► Has an easy-to-use interface; provides multiple permission-based folders, but you can't upload multiple files at once.     |                 |                                                                                                                                                                    |            |                      |                      |
| 2               | Groove Virtual Office<br>www.groove.net                                                                                      | 90<br>Superior  | \$69 for the file-sharing edition; \$174 for the professional edition                                                                                              | 60 days    | No                   | No                   |
|                 | ► Real-time file sharing; collaboration on Word docs, and more. Works only with PC-based app (no browser access).            |                 |                                                                                                                                                                    |            |                      |                      |
| 3               | WebEx WebOffice Workgroup<br>find.pcworld.com/53580                                                                          | 84<br>Very Good | \$60 per month for up to five users and 250MB; \$100 per month for ten users and 400MB (additional users are \$20 per month each)                                  | 30 days    | Yes                  | Yes                  |
|                 | ► Ideal for large files; has a simple interface and Contacts list for storing recipient e-mail, but storage is time-limited. |                 |                                                                                                                                                                    |            |                      |                      |
| 4               | RapidShare<br>www.rapidshare.de/                                                                                             | 77<br>Very Good | Free for unlimited storage (file size limit of 100MB)                                                                                                              | n/a        | Yes                  | Yes                  |
|                 | ► Feature-rich Web-based storage for files, contacts, calendar, tasks, and databases, but no real-time interaction.          |                 |                                                                                                                                                                    |            |                      |                      |
| BETA, NOT RATED | YouSendIt<br>beta.yousendit.com                                                                                              | n/a             | Free for up to 100MB (25 downloads, stored 7 days); \$5 per month for 1GB (100 downloads, stored 14 days); \$30 per month for 2GB (200 downloads, stored 14 days)  | n/a        | Yes                  | Yes                  |
|                 | ► The only choice for unlimited downloads of gargantuan files; you face an annoying wait before downloads start.             |                 |                                                                                                                                                                    |            |                      |                      |

CHART NOTES: Pricing and ratings are as of 5/10/06; n/a = not applicable.

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# HERE'S HOW

EDITED BY ERIC DAHL AND DENNIS O'REILLY



## STEP BY STEP

SCOTT MUELLER

## To Get Just the PC You Want, Build It Yourself

"DOLLAR FOR DOLLAR you'll get more power and features in a PC assembled by a big company than in one you build yourself." That's the conventional wisdom. But new standards and improved component integration that packs more functions into fewer parts now allow you to build a modern system for the same cost as a similarly equipped retail PC.

Follow these steps to assemble an up-to-date machine whose system components should total only about \$800, plus

something like \$400 for a flat-panel LCD, amplified speakers, and Windows XP (all other software is either bundled with hardware or available for free). See our invoice on page 130 for the details.

To keep things simple, we bought all of our items except the OpenOffice application suite (which is a free download) from a single supplier, NewEgg.com. Limiting the number of sources for your components may reduce your shipping costs and save you time.

**1. Get ready:** To protect the components from damage, keep them in their anti-static packaging until you're ready to put them in place. Wear an antistatic wrist strap clipped to a bare metal spot on the chassis, or touch the chassis frequently to equalize your charge relative to it. Handle the motherboard, processor, memory modules, and other sensitive parts by their edges only, and don't touch any socket or connector pins. Finally, make sure the system is unplugged until you're ready to start it for the first time.

**2. Prepare the chassis:** Take the cover off the chassis and remove any instructions, assembly hardware, or loose cables inside the case. If the chassis has a removable motherboard tray, take it out. Remove the I/O shield from the connector area by pressing inward on the shield until it pops into the case (see **FIGURE 1**). Locate the I/O shield that came with the motherboard and snap it into the connector area in the chassis from the inside out.

**3. Add the motherboard:** As you place the board into the chassis, align the rear-



**FIGURE 1: REMOVE the motherboard tray and I/O shield prior to installing components.**

## 128 STEP BY STEP

You can build a PC with the components you want for about the same price as an off-the-shelf model.

## 132 WINDOWS TIPS

Use the Run As option to open suspicious programs safely; stay secure with the Cryptainer LE freebie.

## 134 INTERNET TIPS

Uncover information about any Web address; create shortcuts to specific sites; clean out your Google cookie.

## 136 ANSWER LINE

Keep important data safe by storing it on a separate partition; automate e-mail text entry with boilerplates.

## 138 GPS TIPS

Add waypoints to your GPS device to pinpoint any location; get maps and route info for GPS-less cell phones and PDAs.

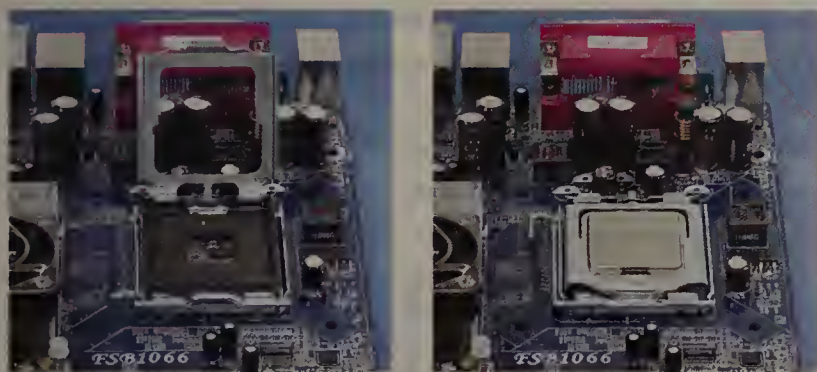
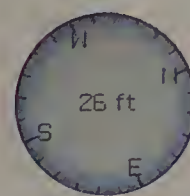


**FIGURE 2: PLACE** the processor in the motherboard's LGA socket and secure it by lowering the load lever over the top of the CPU.

facing connectors with the holes in the I/O shield. If your case uses a motherboard tray, install the processor and memory onto the motherboard first (see below), and then slide the board and tray securely into the chassis.

With the tray removed from the case, set the motherboard atop the mushroom-shaped standoffs at a slight angle from the front of the board to the back, and then press down until the standoffs protrude through the holes in the board. If your chassis uses conventional screws to hold the motherboard, you may have to move or install brass standoffs to match the pattern of holes in your motherboard. Once that's done, set the board down over the standoffs until they line up with

the holes, and install the screws to tighten the board.

**4. Place the processor:** If you are using an Intel processor, install it in the LGA (land grid array) socket on the motherboard (see **FIGURE 2**). Conventional CPU

designs put the pins on the processor, but LGA has them in the socket instead. In either case, don't touch the pins or contacts: They are very delicate and prone to physical and electrostatic damage. LGA775 sockets, such as the one on our motherboard, use a lever to clamp a load plate over the top of the CPU. Disengage the lever from the latch, raise the plate, and remove its plastic cover.

Remove the plastic cover from the processor to expose the contacts on the bottom. Hold the processor by the edges and locate the pin-1 indicator and orientation notches on its sides. Line up the notches in the chip with the orientation keys in the socket. Close the load plate over the top of the processor, and clamp it down.

**5. Keep it cool:** To attach the heat sink to the motherboard, align the four fasteners with the holes in the motherboard and press each fastener down until it clicks (see **FIGURE 3**). AMD heat sinks have four clips that click into place before you lock their levers. Make sure the fasteners are fully seated and the heat sink's base is flush against the motherboard.

Connect the CPU fan to the proper head on the motherboard. LGA775 processors use a new four-wire fan

connector with an extra signal that allows the motherboard to control the fan speed. Plug this connector from the heat sink into the four-wire "CPU FAN" connector on the motherboard; normally this connector is next to the processor socket.

**6. Don't forget the memory:** Our system uses two 512MB modules for a total of 1GB of RAM. To operate in dual-channel mode on our motherboard, we installed this pair of modules in the blue sockets.

To install DDR2 modules, open the locking tabs to the side and then insert the module into the socket so that the notch aligns with the tab. Press the module firmly straight into the socket until the tabs lock the module into place.

**7. Insert the add-in cards:** Next, install your video card and any other add-in boards by removing the slot cover, inserting the card firmly in the appropriate slot, and securing it using either the screw from the slot cover or the appropriate card retention mechanism in your case.

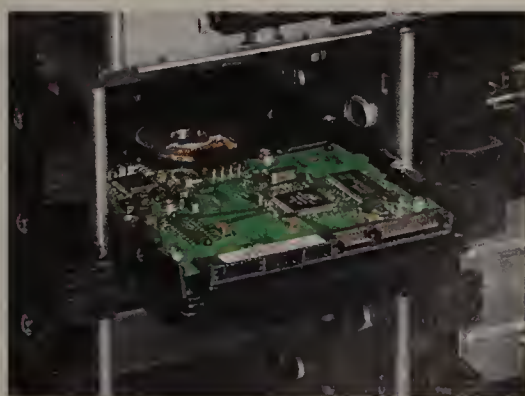


**FIGURE 4: SLIDE** the hard drive into one of the 3.5-inch bays until it clicks into place.

**8. Park the drives:** Pull the locking levers on each side of one of the lower 3.5-inch bays forward (away from the chassis). Slide the drive into the bay with the connectors facing back (see **FIGURE 4**). With the drive in place, press the locking ▶

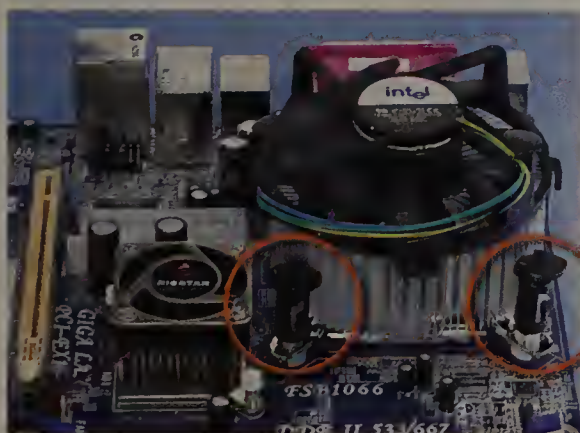


**FIGURE 3: LINE** up the four heat-sink fasteners with holes in the motherboard and press down.

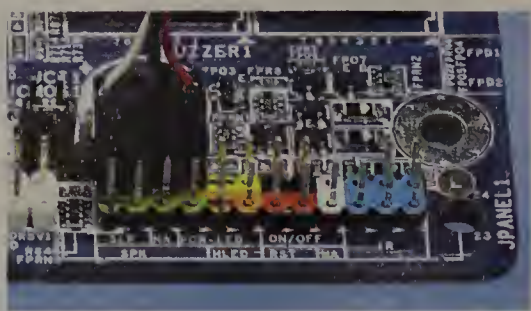


**FIGURE 5: CONNECT** the LEDs on the front of the case to their motherboard switches.

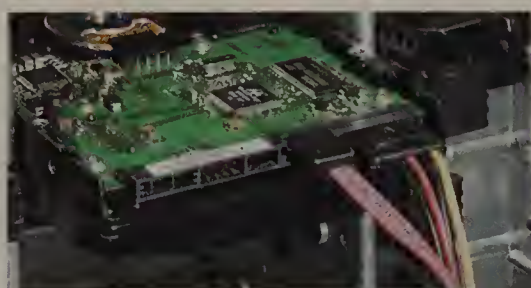


**FIGURE 6: ATTACH** the Serial ATA cable from the motherboard to the hard drive.

levers inward. Don't install the cables yet. With some cases, you use four screws to secure the drive. Accessing these screws in the tight quarters of a case is a major cause of scraped knuckles, which explains manufacturers' shift to levers.

## PARTS LIST

### Build a PC: Invoice

WE CONSTRUCTED A midrange PC with the following components for a total of just under \$1200.

| PRODUCT                                           | Price  |
|---------------------------------------------------|--------|
| Foxconn TPS544 black/silver tool-less ATX chassis | \$70   |
| Intel D945GTPR Media Series microATX motherboard  | \$115  |
| Intel Pentium 4 631 3-GHz/800-MHz 65nm processor  | \$177  |
| Two Gigaram 512MB (1GB) DDR2 667 (PC2-5300) DIMMs | \$72   |
| EVGA GeForce 6600 GT graphics board               | \$139  |
| Western Digital 250GB 7200-rpm SATA hard drive    | \$90   |
| Lite-On ATAPI DVD±R/RW burner                     | \$40   |
| Encore 56-kbps Intel 537 chip set fax modem       | \$8    |
| ViewSonic VA902b 19-inch LCD monitor              | \$236  |
| Creative Inspire T3000 29-watt 2.1 speakers       | \$41   |
| Logitech PS/2 keyboard and optical wheel mouse    | \$18   |
| Microsoft Windows XP Home with SP2                | \$90   |
| OpenOffice.org 2.0.1 office suite                 | Free   |
| Subtotal:                                         | \$1096 |
| Shipping:                                         | \$64   |
| Total:                                            | \$1160 |

**CHART NOTES:** Listed prices are street prices as of the time of publication. Shipping charges are for standard delivery (three to five business days). Some online vendors may charge sales tax, which is not included here since sales taxes vary by state. For a more detailed breakdown of the parts we used to assemble our computer, see [find.pcworld.com/53568](http://find.pcworld.com/53568).

**9. Add a DVD burner:** Slide the locking lever of a 5.25-inch bay to the unlock position, place your DVD or other optical drive into the bay, and, once it's fully seated, relock the lever. As with the hard drive, don't connect the cables yet. Note that some cases hold the drive with external locking clips.

**10. Adjust your cables:** On the front of the chassis are a power switch, reset switch, power LED, and hard-drive LED. Find the cable for each and plug it into the appropriate front-panel switch/LED connector on the motherboard (see **FIGURE 5**). Look to your motherboard's manual or the legend printed on the motherboard for guidance.

Next, locate the internal USB, FireWire, audio, and other I/O connectors on the motherboard and attach their cables to the appropriate ports. The assorted cables and connectors should be keyed to prevent improper installation, but consult the diagrams in your motherboard's manual to be sure that you have all of the cables and connectors matched.

Now connect the data cables to the disk drives. The 80-conductor ribbon cable attaches the parallel ATA port on your motherboard to the DVD drive, and the thin Serial ATA cable links the first SATA port on your motherboard to the hard drive (see **FIGURE 6**). SATA cables plug in only one way. If the ribbon cables aren't keyed, note the odd-colored pin-1 wire, which matches up to the small triangle or pin-1 indicator marked on the motherboard and drive connectors. Once you have the cables attached, route them so they are out of the way and do not interfere with airflow through the case.

**11. Add the juice:** Plug the large 24-pin main power connector and the 4-pin 12V connector into the

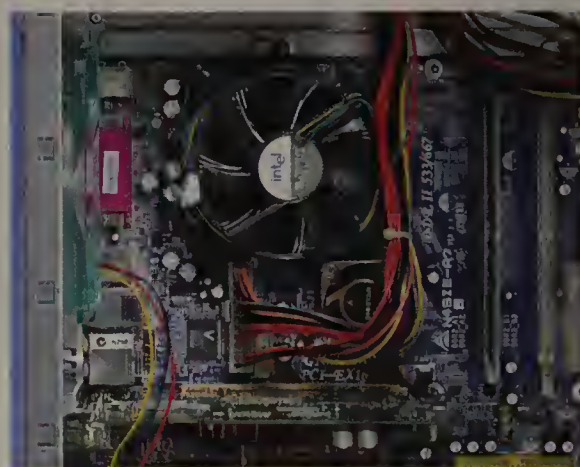


**FIGURE 7: KEEP** the air flowing through your case by tying off cables away from components.

motherboard. The DVD drive uses a single 4-pin peripheral power connector, while the hard drive uses either a 4-pin peripheral power connector or a 15-pin SATA power connector. Route the cables out of the way inside the case, and neatly bundle or tie off any remaining unused power connectors to keep the airflow unobstructed (see **FIGURE 7**).

The chassis we used in our PC has a large, 120mm rear-mounted fan for added cooling. Plug the three-wire connector from your fan into the matching "REAR FAN" connector on the motherboard. Some case fans also take a standard 4-pin peripheral power connector.

**12. Link outside the box:** Attach your display, keyboard, mouse, and speakers to the appropriate color-coded connectors on the back of the system.

**13. Turn it on:** Attach the power cord and press the power button (don't forget to power up your display too). Insert the Windows XP CD-ROM and allow the system to boot from it. Once you've applied the network settings you received from your ISP, browse to [openoffice.org](http://openoffice.org) to download your free applications. If you have problems loading Windows or other software, visit [find.pcworld.com/52582](http://find.pcworld.com/52582) to read Lincoln Spector's tips on troubleshooting a Windows installation. When you are satisfied that everything works, close the case by reattaching the chassis front and side panels.

Scott Mueller is the author of *Upgrading and Repairing PCs*, 14th Edition, published by Que Publishing. You can send him e-mail at [scottmueller@compuserve.com](mailto:scottmueller@compuserve.com).



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# WINDOWS TIPS

SCOTT DUNN

## The Safest Way to Run Suspicious Programs

YOU DON'T NEED to be reminded yet again to keep your virus protection up-to-date or to be cautious about the software you download. But what if you're not sure about the safety of a program you want to run or install? You can attempt a limited installation of any piece of suspect soft-

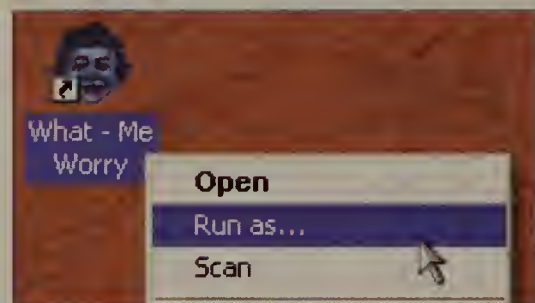


FIGURE 1: RIGHT-CLICK an app or shortcut and choose *Run As* to launch it securely.

ware by using a helpful feature of Windows XP. To safely launch a suspicious program or shortcut, right-click it and choose *Run As* (see FIGURE 1). Note that in some cases, such as with a mysterious new Control Panel (.cpl) icon, you may need to hold the <Shift> key to see the right-click menu's *Run As* option.

In the *Run As* dialog box, select *Current user* and make sure that the option *Protect my computer and data from unauthorized program activity* is checked (see FIGURE 2). Then click OK.

When running in the 'Protect my computer' mode, the program is able to read Registry settings, but it cannot change them. In addition, if your hard disk is formatted with NTFS, the program won't be able to alter any files associated with the current profile, including cookies, temporary Internet files, the desktop, and My Documents. Be aware, though, that while this option protects against a potentially

harmful program running on your system, it also brings grief to many perfectly healthy applications that need to store settings or files in one of these locations. Consequently, you might want to reserve this trick for dubious applications or those whose origins are iffy or unknown.

Blogger Aaron Margosis ([find.pcworld.com/52606](http://find.pcworld.com/52606)) has discovered yet another good use for the 'Protect my computer' option: If you need to prevent a particular Web site from leaving data on your hard drive, launch Internet Explorer through this method prior to visiting the site. Note that when IE is running in this protected mode, you won't be able to access any secured sites whose URLs begin with 'https://'. Also, some commands (such as 'Open Link in New Window' on the context menu) may not work.

### WINDOWS TOOLBOX

## Put a Lockbox on Your System With Cryptainer LE

**Windows 2K XP 98 ME** IF YOU WANT to store your data or applications securely, give Cypherix's Cryptainer LE a try. The free program sets up a virtual vault on your computer. Once you make a password-protected Cryptainer file, it appears in Windows Explorer. Work with that secure container as you would any disk, creating folders, dragging and dropping files, even installing applications on it. When you unload the drive or exit Cryptainer, the virtual disk is visible only as a file protected by 128-bit encryption. You can back up or delete the file, but only your password can unlock its contents.

### ANOTHER DESKTOP TRIP TIP

**Windows 2K XP 98 ME** IN THE MARCH column, I described two keyboard shortcuts to the desktop ([find.pcworld.com/52608](http://find.pcworld.com/52608)): <Windows>-D ("D" for "desktop") to toggle showing and hiding all windows; and <Windows>-M ("M" for "minimize") to hide windows

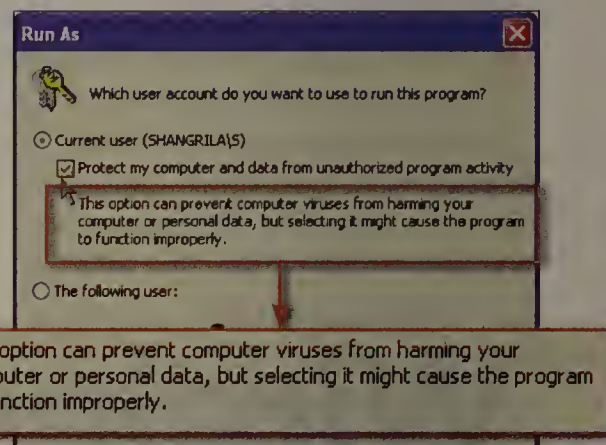


FIGURE 2: 'PROTECT my computer' stops programs from changing Windows' Registry.

but not dialog boxes. I said the latter minimizes, but doesn't restore the windows. Warren Slack of Lakeland, Florida, points out that pressing <Windows>-<Shift>-M brings back the minimized windows. ■

Send your Windows-related questions and tips to [scott\\_dunn@pcworld.com](mailto:scott_dunn@pcworld.com). We pay \$50 for published items. Visit [find.pcworld.com/31607](http://find.pcworld.com/31607) for more Windows Tips. Scott Dunn is a contributing editor for PC World.

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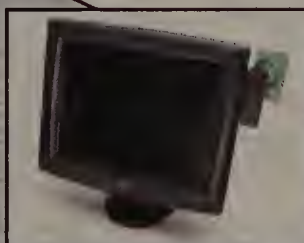
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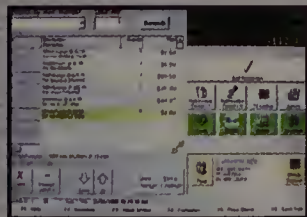
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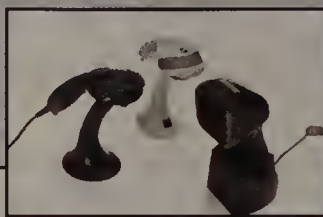
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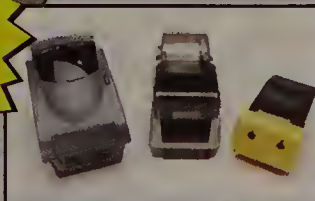
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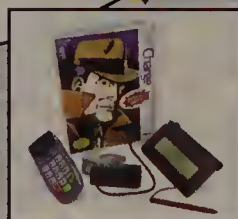
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## INTERNET TIPS

SCOTT SPANBAUER

# Find the Name Behind a Malicious IP Address

I LEARN A lot from *PC World* readers, and I don't acknowledge often enough how the column is steered by your questions and gentle corrections. This month, your fellow readers share tips on identifying who is trying to connect to your computer, creating a shortcut to a Web site, and speeding searches on PCWorld.com.

## WHO'S CALLING, PLEASE?

IN MANY CASES when your firewall blocks access to a remote system, or your spam or phishing filter traps a potential e-mail attack, the only information it reports about the source is an IP address. To learn more about the individual or outfit behind the address, reader Rick Tschernjowski of Syracuse, New York, recommends using the command-line program `nslookup` in the TCP/IP networking protocol in Windows 2000 and XP.

To find the more-descriptive domain name associated with a cryptic IP address such as '65.220.224.30', click *Start•Run*,

type **command** in the Open field (**cmd** in Windows 2000), and press **<Enter>**. At the command prompt, enter **nslookup** followed by a space and the IP address.



**FIGURE 1: CONVERT** an IP address into a domain name and server address using `nslookup` in Windows XP.

Press **<Enter>**, and after a short delay, `nslookup` will report first the name of the domain name system (DNS) server used for the lookup, followed by the IP address and domain name that you want to know about (see **FIGURE 1**). Type **exit** to close the command-prompt window. The program will also do forward lookups, providing the IP address linked to a domain name.

If you use a router or wireless hub, `nslookup` may complain that "default servers are not available," but nevertheless it will still provide the lookup information. For a more in-depth explanation of the `nslookup` command in Windows, browse to Microsoft's documentation page at [find.pcworld.com/52612](http://find.pcworld.com/52612).

Sometimes, just knowing the domain name can help you identify the frauds. For example, you can report spam to the sending ISP by firing off a message to 'abuse@domain', where 'domain' is the domain name that you looked up. Other

times, you need more than a name. For finding the phone numbers, e-mail addresses, and other contact information related to a domain name or an IP address, Tschernjowski recommends the Whois lookup tools at [www.dnsstuff.com](http://www.dnsstuff.com). The site also offers a handy geolocation tool that tells you where in the world a particular IP address is located.

## SHORTCUTS TO WEB SITES

WHEN YOU LAUNCH your browser, it automatically loads whatever site you've selected as your home page. But there are probably many times when you want to open your browser to a site other than your home page. For those occasions,

Pensacola, Florida, reader

Donald Darden offers a time-saver: Right-click the desktop (or inside any folder) and choose *New•Shortcut*.

Enter the site's URL (for example, [www.pcworld.com](http://www.pcworld.com)), click *Next*, give the shortcut a name (maybe the name of the site), and click *Finish*. Then double-click the shortcut to go directly to your local movie guide or sports scores, without

having to pass through your home page.

## FASTER PCWORLD.COM FINDS

BEN HYMAN of Champaign, Illinois, who uses PCWorld.com's [find.pcworld.com](http://find.pcworld.com) service religiously, has a Firefox shortcut. Begin by choosing *Bookmarks•Manage Bookmarks*, clicking *New Bookmark*, and entering a name in the Name field and <http://find.pcworld.com/%s> in the Location field. Type **pcw** (or whatever you want) in the Keyword field, and click **OK**. Close the bookmark manager. To browse to a link printed in *PC World*, just type **pcw** (or the text you entered) followed by a space and then the link number in Firefox's address field, and press **<Enter>**. ■

Send your questions and tips to [nettips@spanbauer.com](mailto:nettips@spanbauer.com). We pay \$50 for published items. Go to [find.pcworld.com/31523](http://find.pcworld.com/31523) for more Internet Tips. Scott Spanbauer is a contributing editor for PC World.

## ZAP YOUR GOOGLE COOKIE

IF YOU'RE LIKE me, you worry that Google is compiling a complex psychological profile based on your accumulated search requests. ("Mr. Spanbauer, you display inordinate interest in Chuck Norris, potato guns, and self-hypnosis. We have alerted the authorities.") Luckily for all of us, Ksoft's free G-Zapper utility cleans the information that identifies you uniquely out of the Google cookie, thereby protecting your privacy. So take off that tin-foil hat and download G-Zapper from [find.pcworld.com/52614](http://find.pcworld.com/52614).



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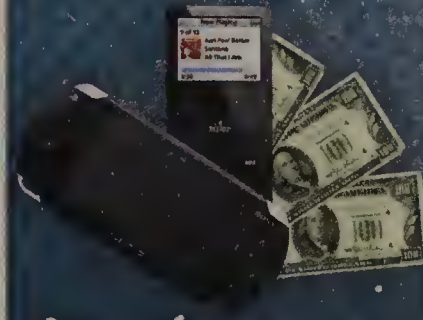


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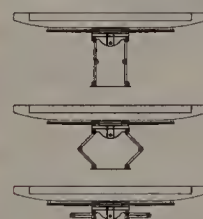
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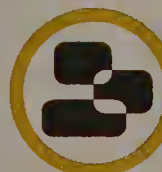
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## ANSWER LINE

LINCOLN SPECTOR

# Move All of Your Valuable Data to a New Partition

**?** I FOLLOWED Jon L. Jacobi's advice for creating a new hard drive partition and moving My Documents there (see last February's *Backup Tips*, [find.pcworld.com/52668](http://find.pcworld.com/52668)). But not all of my important files are in My Documents. How do I move the others over?

[Name withheld]

SEPARATING YOUR DATA isn't as easy as relocating My Documents. By default, Windows XP or 2000 put your files in the Documents and Settings folder, but some files in this folder should not be moved.

First back up your Registry; for instructions on how to proceed, review April's "Windows Hacks" feature ([find.pcworld.com/52670](http://find.pcworld.com/52670)). Next, if you haven't already, use a program such as Symantec's \$70 PartitionMagic ([find.pcworld.com/52672](http://find.pcworld.com/52672)) or Acronis's \$50 Disk Director Suite ([find.pcworld.com/52674](http://find.pcworld.com/52674)) to adjust your hard-drive partitions. When the drive is repartitioned and you're ready to make the move, close all apps except Windows Explorer. Confirm that your PC shows hidden files and folders: In Windows Explorer, select *Tools•Folder Options•View*.

Verify that *Show hidden files and folders* is checked, and click *OK*. You can change this back when you're done, if you wish.

Navigate in Windows Explorer to the data partition you just created (I'll refer to it as 'X:'). Make folders for each user with a log-on: Select *File•New•Folder* and enter the user name. Repeat the steps below for every user on the machine.

Your C:\Documents and Settings\log-on folder (where log-on is your log-on name) has four folders that likely hold important data: My Documents, Application Data, Local Settings\Application Data, and—if you use Internet Explorer—Favorites.

If you haven't moved My Documents yet, right-click the *My Documents* folder in Windows Explorer and select *Properties*. Enter X:\log-on\My Documents as the new path (where 'X' is your new partition's drive letter, and log-on is your user name). After asking permission, Windows will change the location of My Documents and move the actual files.

Moving Application Data is trickier. Log in to each account and drag its Application Data folder in Explorer from C:\

Documents and Settings\log-on to X:\log-on (again, where 'X' is the partition's drive letter and log-on is the user name). Now select *Start•Run*, type *regedit*, and press *<Enter>*. In the left pane, navigate to and select *HKEY\_CURRENT\_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\User Shell Folders*. Double-click the *AppData* value, change the 'Value data' field to X:\log-on\Application Data, and press *<Enter>* (see FIG-

URE 1). Log off and then log in to the same account again. Now delete the Application Data folder in the old location.

Next, change the Favorites value in the Registry Editor just as you did the AppData value. If you have Microsoft's Tweak UI (part of the free PowerToys for Windows XP; [find.pcworld.com/52676](http://find.pcworld.com/52676)), use that program's *My Computer•Special Folders* option, which makes changing various folder locations a breeze. You still have to move the files and subfolders.

Browse to [find.pcworld.com/53516](http://find.pcworld.com/53516) for instructions on relocating data in the Local Settings\Application Data folder.

Finally, move the shared data. In Windows Explorer, create a folder named X:\All Users. Use the technique above for Application Data to move both Shared Documents and Application Data (they are inside C:\Documents and Settings\All Users) to this new location. Open the Registry Editor and navigate to *HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Explorer\User Shell Folders*. Add the new location in the 'Value data' field of Common AppData and Common Documents. ■

Send your questions to [answer@pcworld.com](mailto:answer@pcworld.com). Answer Line pays \$50 for published items. See [find.pcworld.com/31577](http://find.pcworld.com/31577) for past Answer Line columns. You'll find Contributing Editor Lincoln Spector's humorous and other writings at [www.thelinkinspector.com](http://www.thelinkinspector.com).

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MOST E-MAIL PROGRAMS let you automate entry of your snail-mail address and other common text. Simply create multiple signatures, which you can place anywhere in the message—not just at the end. To create boilerplate in Outlook, select *Tools•Options•Mail Format•Signatures•New*, and follow the instructions. Then put the cursor where you want the text to appear in the message, select *Insert•Signature*, and make your choice. Or if you use Word as your Outlook editor, use that program's AutoText and AutoCorrect (browse to [find.pcworld.com/52684](http://find.pcworld.com/52684) for more on these options).

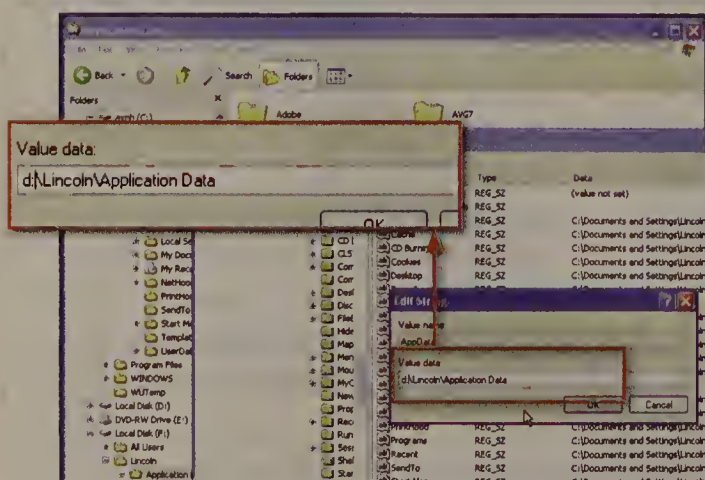


FIGURE 1: MOVE YOUR data folder by copying the folder in Windows Explorer and changing a Registry setting.

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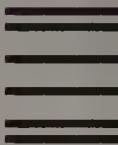
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# GPS TIPS

MICHAEL S. LASKY

## Save Time and Money by Customizing Your GPS

GPS RECEIVERS ARE great for avoiding unscheduled detours on the road. But they can be even more helpful for planning a trip, whether it's a cross-country trek or a hopscotch tour of your routine Saturday stops. You can cut your travel time, and save money on gas, by creating custom waypoints for your GPS.

A waypoint—sometimes called simply a “mark” or “landmark”—identifies your home, a hiking trailhead, a highway rest stop, or any location you store in a GPS receiver. The waypoint might appear as an icon on a map page, but your GPS software can maintain much more information about it, such as its latitude, longitude, and elevation, and the time and date when it was created. You can even

### GPS MAPS WITH NO GPS

IF YOU HAVE a Web-enabled cell phone or PDA, you can receive instant street maps of your current location with a subscription software package from Handmark ([express.handmark.com](http://express.handmark.com)). This service for people who don't have GPS receivers returns precise maps based on street and city queries that you send wirelessly. You can also get up-to-the-minute news, weather (with live radar maps), sports, stock prices, directories, and movie times and ticket purchases. The street maps can help you avoid having to ask for directions; but aside from that, the service's unlimited directory assistance (with reverse directories as well) more than justifies the \$70 yearly subscription. For \$30 a year, you can obtain just mapping and directory assistance.

use a descriptive icon of your choice.

Most receivers let you enter a waypoint from a previously saved coordinate record or import one from a collection of waypoints, many of which you can download from Web sites offering GPS information (visit [find.pcworld.com/53134](http://find.pcworld.com/53134) to find out more about GPS Web sites). Each GPS receiver uses different steps to establish waypoints, so consult your manual for the details. If your GPS device lacks a ‘waypoint’ option, don't fret. Some units, such as the Garmin StreetPilot 5, save waypoints as ‘Recent Finds’ or ‘favorites’.

Most GPS systems have a button or menu selection for setting the current location as a waypoint so it's easier to return to. You can give the spot a descriptive name, and you can choose an icon for it on the waypoint information page, which usually pops up after you mark a location. (On some receivers, to open the waypoint information window, you must manually select the waypoint that you just created.) Even on GPS-enabled BlackBerries and other devices that do not use icons, you can give each point a unique name, such as ‘Parking lot’ (see **FIGURE 1**).

Setting a waypoint for a known locale—whether it be the cursor point on a map, latitude and longitude coordinates, or even a locale previously saved as a waypoint and imported from another GPS receiver—takes a few more steps. Most

current devices let you designate a waypoint by opening their *Create Waypoint* menu and selecting *Create From Current Pos* (or *Position*—the exact name varies). To enter precise latitude-longitude coordinates, select *Create From Entered Pos* (or *Position*). Then enter the numbers manually; **37.78328N/122.39359W**, for example, sets the street address of PC World's offices in San Francisco.

### ON THE ROAD AGAIN

MOST GPS DEVICES can store from 100 to over 1000 waypoints. Before you set out on a motor trip or hiking expedition, it's helpful to create waypoints for your starting point and for points of interest along the way (they're a big improvement over Hansel and Gretel's bread crumbs).

Say you are exploring Yosemite National Park by car and foot, and you have set waypoints for a parking lot at the trailhead and for Yosemite Village. As you wander along a twisting mountain trail, you realize that you aren't exactly on the trail anymore; in fact, you're lost. Fortunately, you can use your GPS device to call up a waypoint that will identify the distance between

your current position and the parking lot. You won't have street maps, but you can use the compass and the directional arrows to set yourself on the right path back to the trail, your car, or the village. As you get closer to the waypoint, its icon will appear larger on your GPS screen.

When using street maps, most GPS receivers let you track and save your route as you move. By using PC mapping programs in advance of a trip, you can pre-build routes that will automatically create a trip log. You can even preset waypoints along the route, and import the fully routed trips to your GPS device. ■

Former PC World Senior Editor Michael S. Lasky is now a freelance writer and PC consultant in San Francisco.

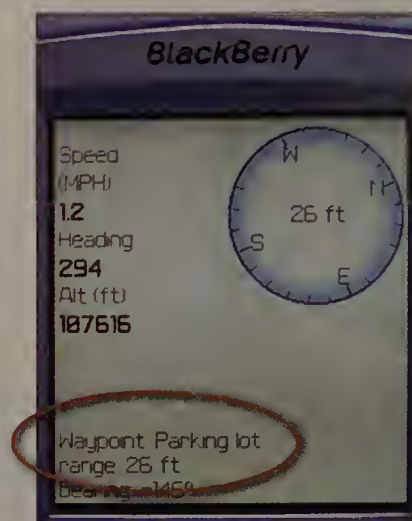


**FIGURE 1: FIND waypoints easily by giving them distinctive names.**



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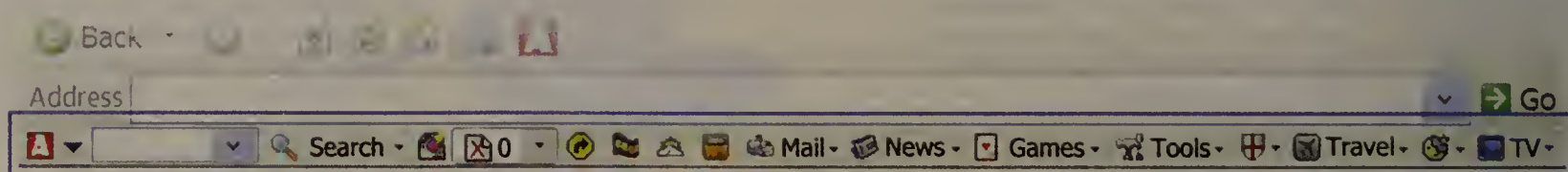
# Toolbar Review

There has never been a better time to use a toolbar with your Internet browser. Toolbars can provide users with numerous features such as Pop-up Blocking, Driving Directions, Adult Content Filtering, Security Features, Spyware Detection, Games and more. Toolbars are a convenient and powerful addition to your browser, making it easier than ever to navigate the Internet.

The comparison chart below will help you decide which toolbar is right for you.

| Toolbar Comparison Chart      |                  |        |        |      |
|-------------------------------|------------------|--------|--------|------|
| Toolbar Features:             | Advanced Toolbar | Google | YAHOO! | msn. |
| Search Engines                | 100+             | 1      | 1      | 1    |
| Search Tabs                   | ✓                |        |        |      |
| Blocks Pop-Up Ads             | ✓                | ✓      | ✓      | ✓    |
| Calendar Application          | ✓                |        |        |      |
| RSS News Reader w/Ticker      | ✓                |        |        |      |
| Auto Form Filler              | ✓                | ✓      |        | ✓    |
| Adult Content Blocker         | ✓                |        |        |      |
| Spyware Remover               | ✓                |        | ✓      |      |
| Homepage Protector            | ✓                |        |        |      |
| Browser Tracks Eraser/Cleaner | ✓                |        |        |      |
| File Shredder                 | ✓                |        |        |      |
| Add Buttons for Software      | ✓                |        |        |      |
| Add Buttons for Webpages      | ✓                | ✓      | ✓      |      |
| Screensaver Launcher          | ✓                |        |        |      |
| Games Links                   | 70               | 0      | 10     | 10   |
| E-mail Provider Links         | 52               | 0      | 1      | 1    |
| News Provider Links           | 88               | 0      | 1      | 0    |

With its vast array of features and incredible ease of use, the Advanced Toolbar stands out from the competition. It's a powerful web tool that allows you to choose from over 100 search engines, 80 plus news sources, 50 plus email providers and can be completely customized to meet your needs. The Advanced Toolbar does not record any user data, has a very straight forward privacy policy and is totally spyware and adware free. You can get a free copy of the Advanced Toolbar at <http://www.advancedtoolbar.com> and take advantage of everything this incredible toolbar has to offer.



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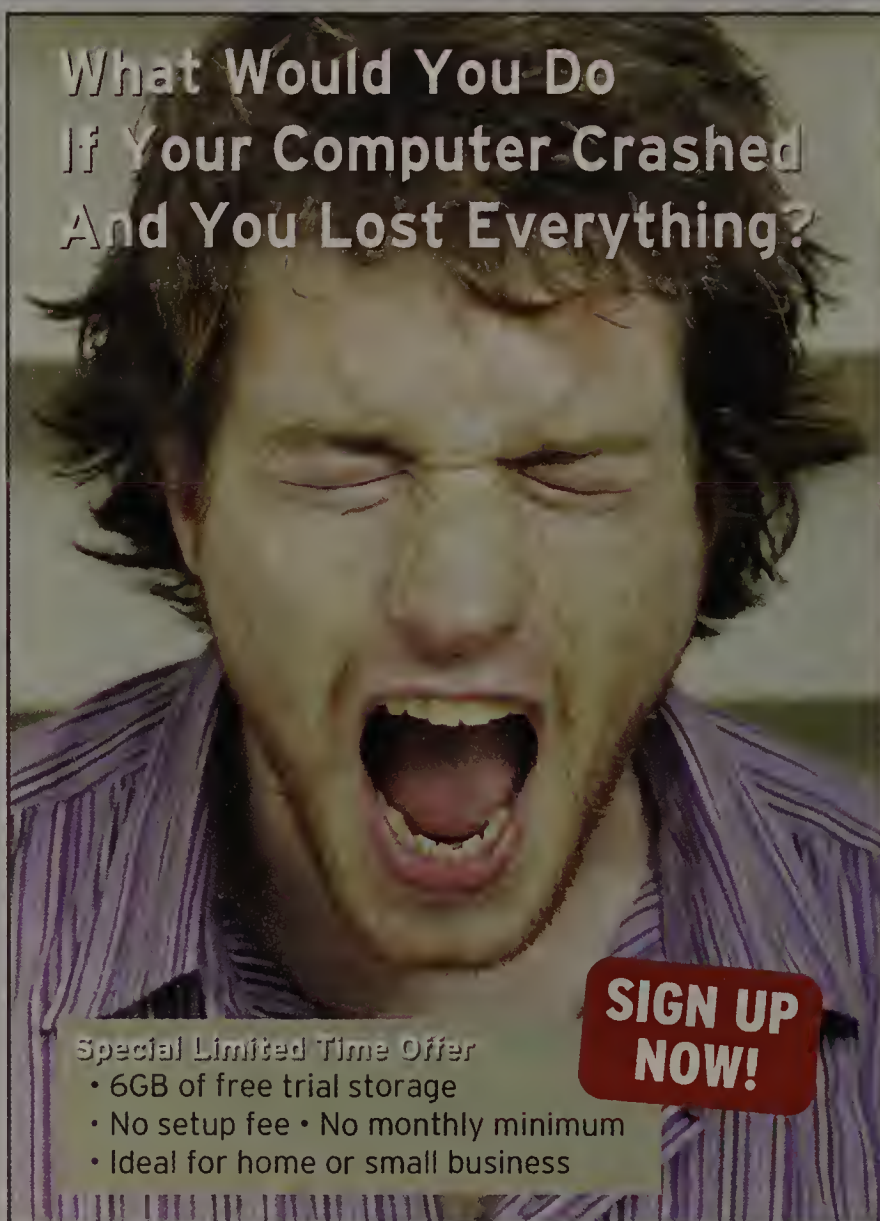
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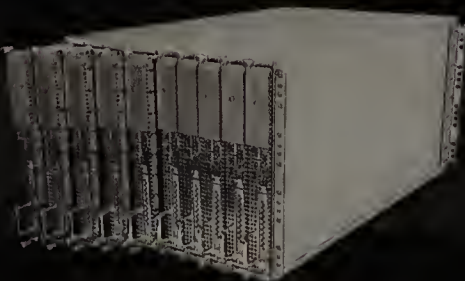
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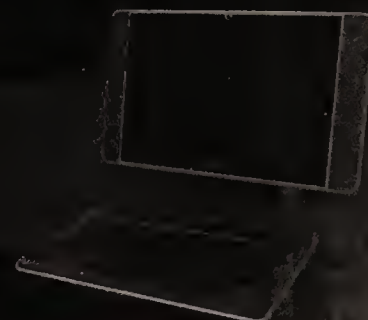
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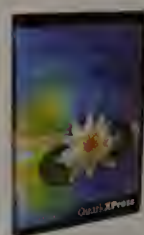
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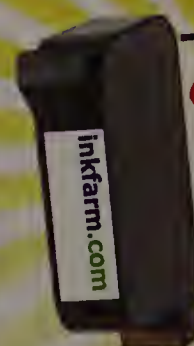
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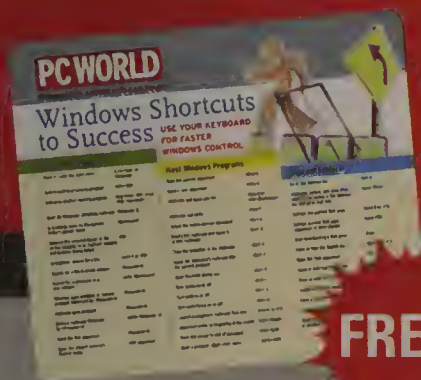
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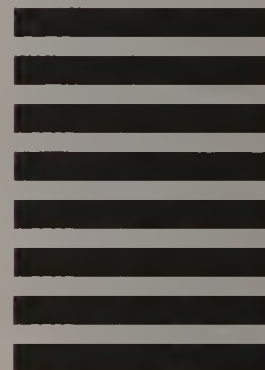
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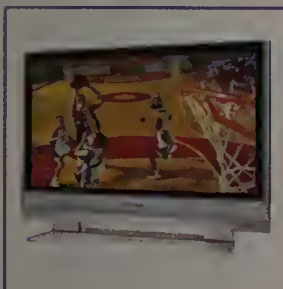
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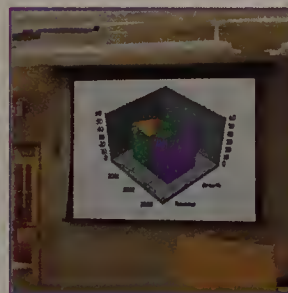
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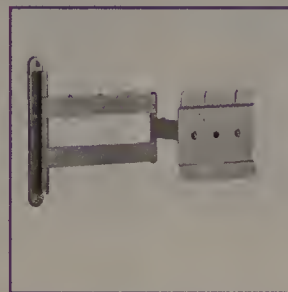
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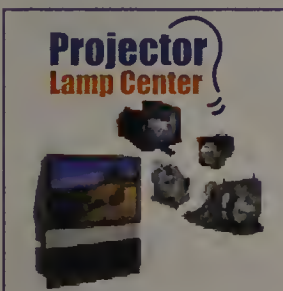
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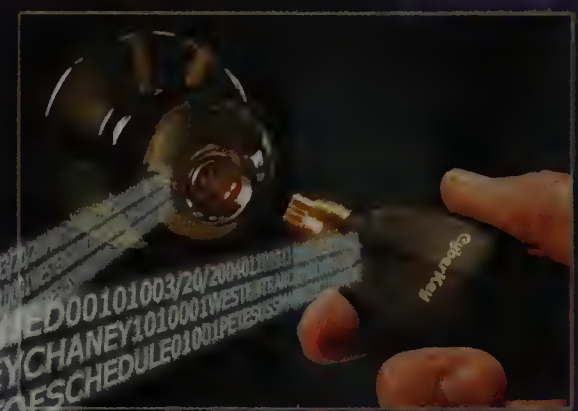
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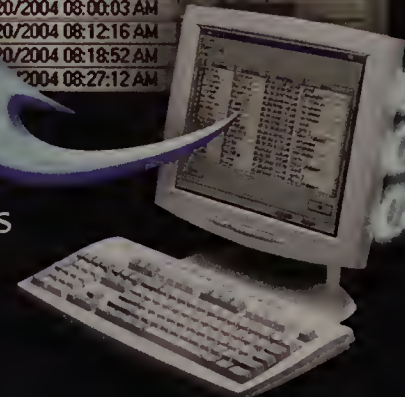
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## The Best Buying Advice of All: Don't!

AFTER DROOLING OVER all the "Bests" in this issue's cover story, you might be anticipating a purchase or two. Good for you. According to Claudia Senik, a French economics professor recently quoted in the *New York Times*, the anticipation may give you more pleasure than the purchase itself. So if that's true, and I suspect it is, don't run out to buy that great new thing. Just wait. Anticipate.

If anybody needs a new PC, it's me. I'm nursing one that was new when Windows 2000 was. But Vista has been delayed again, and as I write this, Microsoft still won't say precisely what kind of machine you'll need to run it. Until the definitive word comes, I won't buy a replacement.

And even after Microsoft does release the hardware specs—perhaps by the time you read this—users like me will think back to last time, when early "Windows XP Ready" machines didn't upgrade perfectly and a driver or six turned out to be the culprit. So we'll probably wait to buy a PC with the new OS preinstalled—after we wait out the first round of bugs and investigate the driver situation for our peripherals. Hey, for now I'm getting something better than a new computer: an extra helping of anticipation!

Vista isn't the only thing flashing a "Wait" sign bigger and redder than the ones at urban intersections. The forthcoming Blu-ray players (see page 20) will be able to deliver high-definition video in the 1080p format, or 1080 progressive lines of information every 60 seconds. Plenty of current TVs can display that format—but their makers don't mention that the sets' inputs typically accept only the half-as-much-info-at-once interlaced 1080i format, which internal circuitry up-

converts. The resulting image is far from chopped liver, but since 1080p is likely to remain the highest-res standard for a long time, why get stuck with a display that can't handle it without conversion?

And don't forget copy protection. Pioneers who bought early HDTV equipment are discovering that their pricey

toys may not work with the schemes Hollywood has devised to put fences around high-def content. The same will likely go for owners of current monitors who try plugging them into new computers that can handle Blu-ray discs and other high-def formats. As Carly Simon says, it's "makin' me late...keepin' me waitin'."

Wi-Fi networking is in the same boat. The latest products (see page 24) conform to a "draft" 802.11n standard not yet ratified. While routers and cards are supposed to work with their brandmates, they may not play well with others and might not be upgradable to the final standard. The upshot: Equipment you buy next year might not deliver all its potential on your "draft" network.

Anticipation may create happiness, but buying too early leads

mostly to frustration.

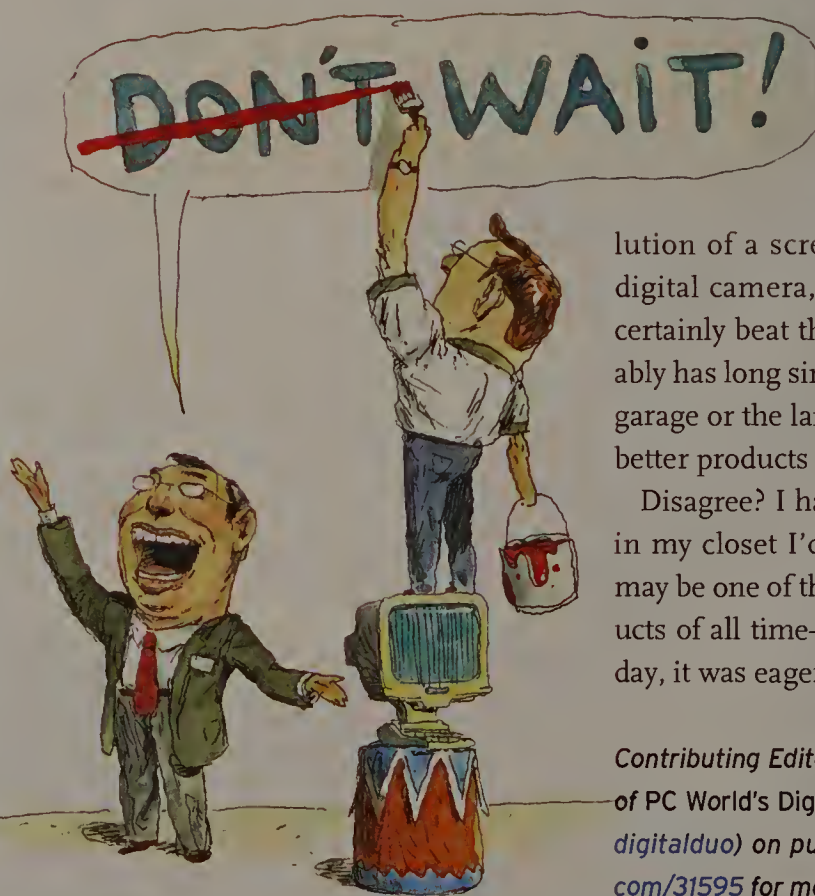
If you sprang for an early-model inkjet printer, an \$800 flat panel with all the reso-

lution of a screen door, or a sub-VGA digital camera, the anticipation almost certainly beat the purchase, which probably has long since been consigned to the garage or the landfill. Procrastinators get better products and fewer headaches.

Disagree? I have an original IBM PCjr in my closet I'd be happy to sell you. It may be one of the worst technology products of all time—see page 86—but in its day, it was eagerly...anticipated. ■

Contributing Editor Stephen Manes is cohost of PC World's Digital Duo ([www.pcworld.com/digitalduo](http://www.pcworld.com/digitalduo)) on public TV. Visit [find.pcworld.com/31595](http://find.pcworld.com/31595) for more Full Disclosure columns.

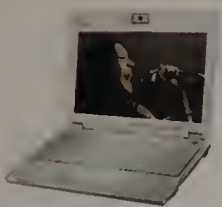
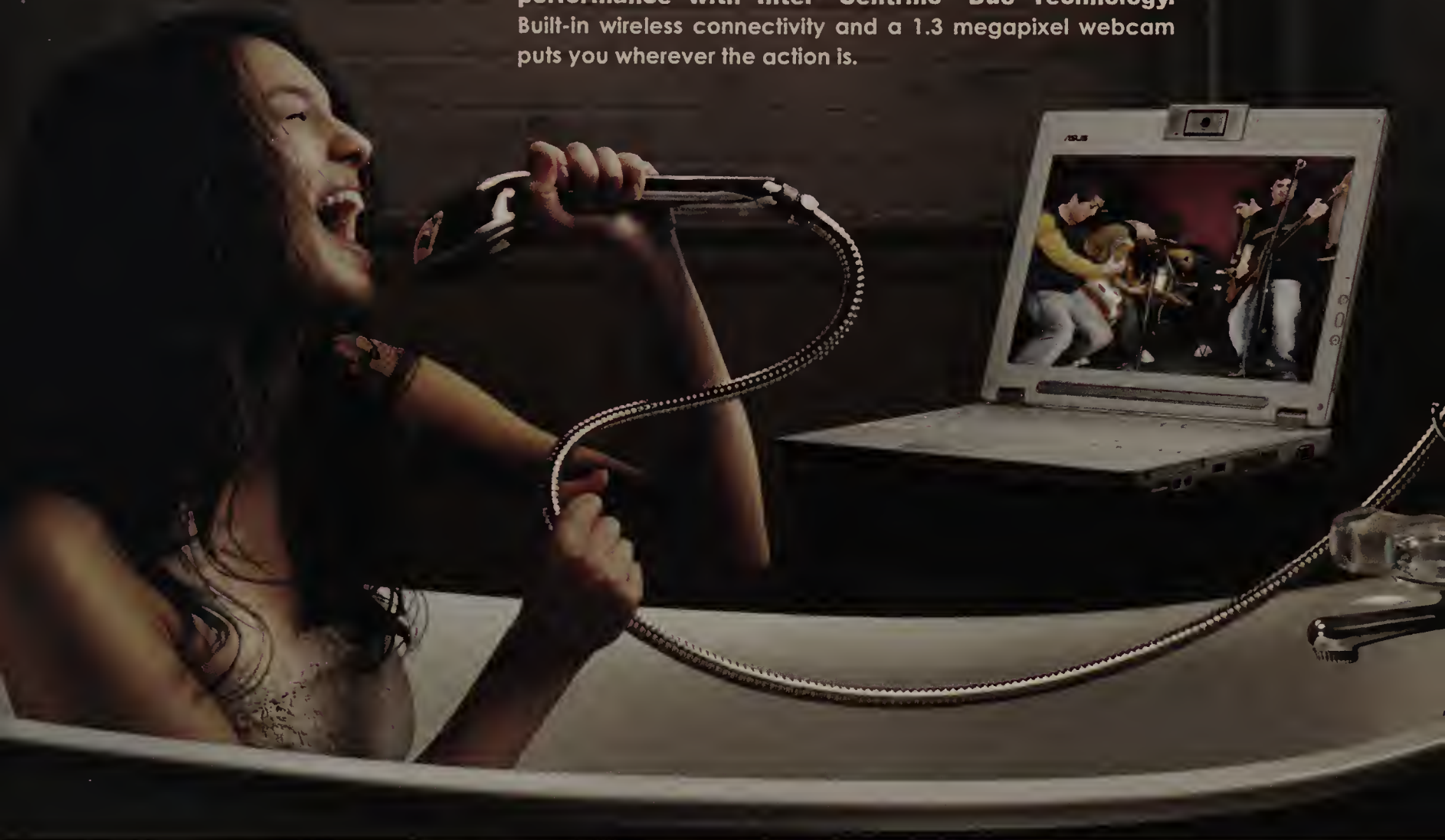
**Want to be a happy technology user?  
It's all in the timing.**



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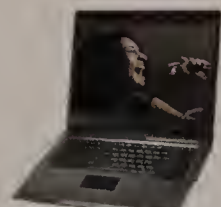
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